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PERSPECTIVES

ON LABOUR AND INCOME

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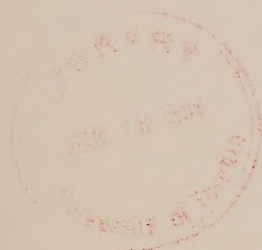
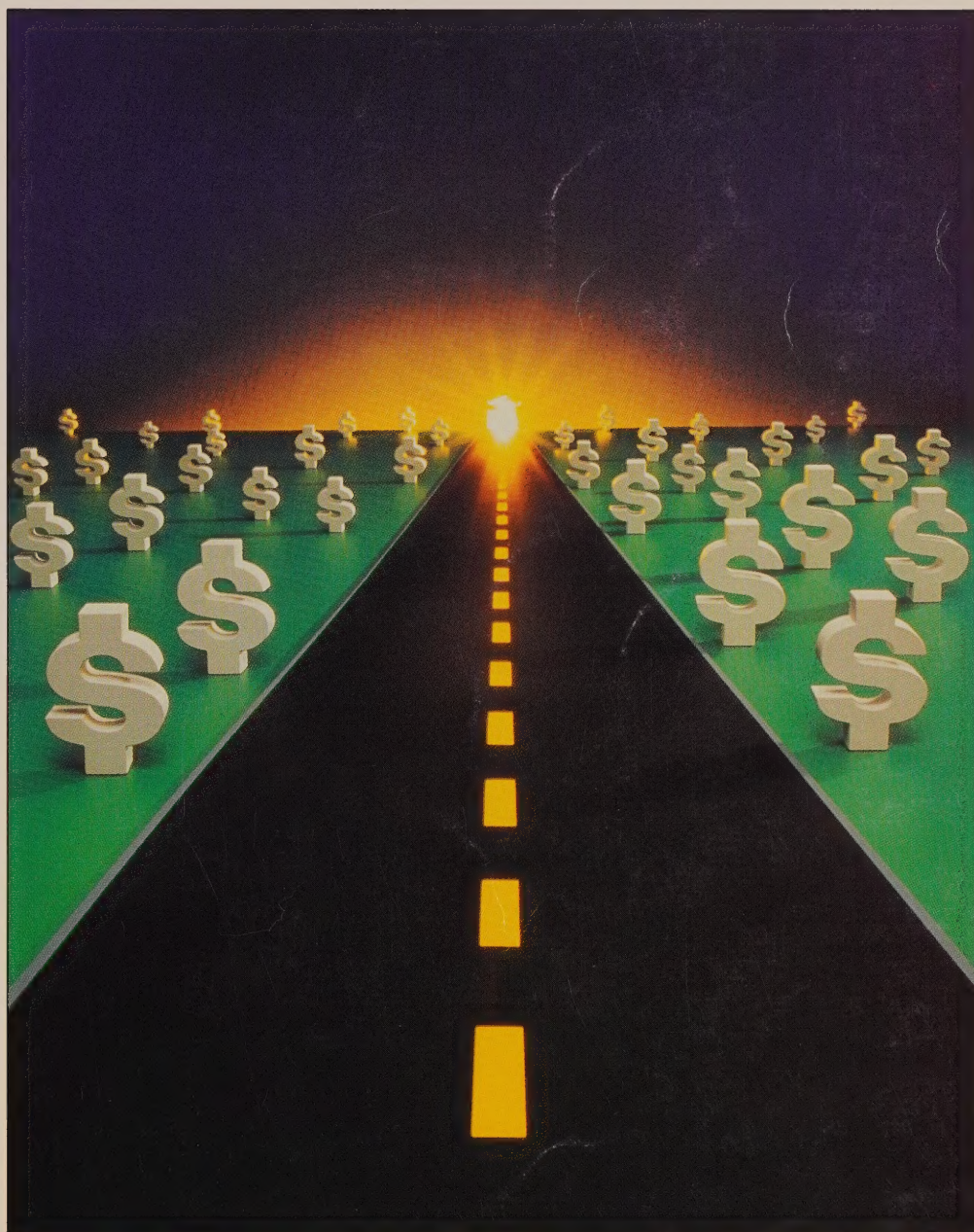
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PERSPECTIVES

ON LABOUR AND INCOME

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■ Articles

- 9 Family income: 25 years of stability and change
Abdul Rashid

The distribution of income changes over time, as does the proportion of total income received by different family types. This article examines the relative shares of total family income for different family groups in 1970 and 1995, along with changes in the composition of these groups. It complements the family income study published in the Winter 1998 issue of *Perspectives*.

- 16 Seasonality in employment
Katherine Marshall

Seasonality is an important issue because it can add a burden to the economy. The short-term use of seasonal labour is a more costly process than a steady use of labour throughout the year. This article reviews the change in seasonal employment patterns over the past two decades, and looks at how various industries, demographic groups and regions have been affected.

- 23 Obtaining a job
Lee Grenon

Of the 8.4 million job hirings that took place during 1994 and 1995, most were the result of informal recruitment methods as opposed to traditional responses to job advertisements. This study, which complements *Perspectives'* Autumn 1998 article on job search methods, examines worker and firm traits that influence the matching of jobs and workers.



PERSPECTIVES

ON LABOUR AND INCOME

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28 Paying off student loans

Warren Clark

As students are increasingly pressured to find new ways of funding their education, many turn to student loan programs for assistance, and, as a result, are faced with a post-graduation debt load. Using data from the National Graduates Survey, this study assesses the debt and repayment record for holders of college certificates and diplomas, and bachelor's degrees. It also examines the effect of high debt on these graduates. (Adapted from an article in *Canadian Social Trends* published in Winter 1998.)

34 Private security and public policing

Karen Swol

Both police officers and private security personnel play a key role in society; however, the line between the two professions is becoming less clearly defined as the use of private security increases. This article discusses the differences between public and private security. It includes information on roles and responsibilities, as well as minimum requirements and training. (Adapted from an article in *Juristat* published in November 1998.)

Symbols

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Forum

From the Managing Editor

■ Beginning with this issue, you may notice some changes in *Perspectives*. We have tried to make the tables easier to read and the general layout more flexible. You may also find an occasional "postscript" complementing the information provided in an article. The impetus for the changes was a desire to further update and modernize our ten-year-old flagship. We hope you like it. Please feel free to contact us with comments or suggestions. Your input is always welcome.

Henry Pold
Managing Editor
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In the mail...

"The gambling industry" (Winter 1998)

■ I would like to comment on some of the findings in this article. I have no doubt that gambling is very profitable and you have presented a very good overview of this fact. I would question the use of averages when analyzing your broad categories of gamblers. A more in-depth look at the gambling population may point out some problems with the conclusion that this is a profitable venture for governments.

The gambling industry looks more like a reallocation of income program when administered by the government. Whether or not this is a better allocation of income is not clear. The data shown in this article point to the fact that lower income families spend a higher percentage of their income on gambling. I would also assume that there are a larger number of families in this category.

Profit is defined as revenue less costs. I do not think the costs are fully accounted for as far as the government is concerned. If this were purely a private venture, then gambling is an excellent opportunity. Governments, on the other hand, have to worry about the social cost, which can manifest itself in very real financial costs as well as the human costs.

I enjoyed reading your article and would hope to see more research on this issue.

Jason Grundahl

Perspectives

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Bruce Rogers, "What's new?" *Perspectives on Labour and Income*, 5-D Jean Talon Building, Statistics Canada, Ottawa K1A 0T6. Telephone (613) 951-2883; fax (613) 951-4179; e-mail: rogebru@statcan.ca.

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Highlights

In this issue

■ **Family income: 25 years of stability and change** ... p. 9

- Between 1970 and 1995, real average family income rose by 32.0%. When families are arranged by income and divided into 10 equal groups (deciles), increases ranged from 19.4% in the third decile to 37.0% in the ninth.
- The share of total income going to the families in the top 3 deciles increased over the period, while the share of the bottom 7 deciles, taken as a group, declined.
- The losses and gains took place following the recessions of the early eighties and nineties. The losses were, however, felt more strongly by families with low-to-middle incomes.
- Compared with the small changes in income shares of various deciles, major changes occurred in the family composition of the deciles.
- The number of female lone-parent families increased by 155%. Since these families usually have smaller incomes, their proportion in the lower deciles increased – from 23.9% to 39.7% in the bottom decile.
- The number of families in which both husband and wife worked rose steadily and substantially during the period. The proportion of such families in the upper income deciles grew significantly – from 49.5% to 80.9% in the top decile.

- The overall contribution of government transfer payments to family income increased from 5.4% in 1970 to 12.0% in 1995. These payments became the major source of income for a much larger proportion of families in the lower deciles.
- In 1995, the income share of families in the first 5 deciles (half of all families) was 18.0% of the aggregate, before taxes and transfers. Transfer payments increased their share to 24.3%. Personal income taxes further enhanced their share to 29.2%.

■ **Seasonality in employment** ... p. 16

- Seasonal swings in employment declined from 3.4% of the annual average in 1976 to 2.8% in 1997.
- Two principal trends affected seasonality overall: a decline in seasonal variation in most industries, and a shift away from highly seasonal industries such as agriculture; fishing and trapping; logging and forestry; and construction.
- Other factors affecting seasonality include technological advances, and a trend among part-time workers to work throughout the year.
- Seasonal variation declined by 16% for men and 26% for women. For both sexes, the drop in seasonality resulted largely from the decline in the employment share of youths (15 to 24).
- Seasonality in employment dropped in all provinces except Prince Edward Island. However, the degree of seasonality remained high in Newfoundland and New Brunswick.

■ Obtaining a job

... p. 23

- Some 8.4 million job hirings took place during 1994 and 1995. Nearly half (46%) of all job placements came through job seekers' direct contact with an employer, either in person or by telephone. Others came by way of family or friends (24%); employment agencies, unions, referrals from other employers, or other sources (14%); advertisements (8%); or direct contact from an employer (8%).
- Those with the least work experience, typically youths, were more likely to obtain work by contacting employers directly (49%) or through family and friends (27%). Those with more experience benefited more than younger workers from direct offers by employers, referrals from other employers, or contact with unions.
- Small firms were more likely than larger firms to hire employees through family and friends, whereas larger firms were more likely to hire those who approached them directly.
- Hiring practices varied according to sector. In 1994 and 1995, one in 4 jobs in the private sector came about through family and friends. Only one in 10 jobs in the public sector was obtained this way.
- Postsecondary graduates were twice as likely as those with less than high school to find work through job advertisements (10%); however, they were less likely to have used informal methods.

■ Paying off student loans

... p. 28

- Since 1980, tuition fees have grown by 115% while average family income has risen by only 1%, forcing students to resort increasingly to loans in order to finance their education.
- Graduates of 1995 owed between 130% and 140% more to student loan programs at graduation than the class of 1982. Overall, 46% of 1995 college graduates and 50% of those with bachelor's degrees had borrowed from a student loan program. On average, they owed \$9,600 (college) and \$13,300 (bachelor's) when they graduated.

- Graduates aged 25 to 29 were more likely than younger or older graduates to borrow and to owe larger amounts. This is probably because younger graduates tend to rely more on their parents for financial support, while those over 30 are more likely to be employed and studying part time.
- Despite the considerable increase in the debt burden of graduates, about 41% of college and 32% of university graduates had repaid their loans or expected to before 2001; only about 4% of 1995 borrowers had defaulted within two years. As expected, the two most significant factors affecting loan repayment were the size of the loan and the level of the graduate's income.
- Among graduates with bachelor's degrees, 20% of women said they had problems repaying their loans, compared with 15% of men.
- Difficulty in repaying loans varied from province to province, with Newfoundland university graduates reporting the most difficulty (24%) and those in Quebec reporting the least (14%).

■ Private security and public policing

... p. 34

- Private security personnel (security guards and private investigators) outnumbered police officers in Canada in 1996: 82,010 to 59,090. Their number increased by 1% between 1991 and 1996, while that of police officers dropped by 4%.
- Education levels were higher among police officers. Over 80% had more than a high school diploma, compared with 66% of private investigators and 53% of security guards.
- Women made up 21% of private investigators and 20% of security guards, but only 13% of police officers.
- Police officers reported an average employment income of \$53,795 for 1995. This was nearly \$20,000 more than private investigators earned and more than double the average income of security guards.

■ What's new?

... p. 43

■ Just released

"Entertainment services: a growing consumer market," *Services Indicators*

"Employment and remuneration in the services industries since 1984," *Services Indicators*

Education at a Glance: OECD Indicators 1998

Are There High-tech Industries or Only High-tech Firms? Evidence from New Technology-based Firms

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Perspectives on Labour and Income

The quarterly for labour market and income information

Family income: 25 years of stability and change

Abdul Rashid

The distribution of income changes over time, as does the proportion of total income received by different family types. This article examines the relative shares of total family income for different family groups in 1970 and 1995, along with changes in the composition of these groups (see *Definitions*). It complements the family income study published in the Winter 1998 issue of *Perspectives*.

Changes vary along the income scale

Changes in family income are generally discussed in terms of average incomes and proportions of families in various income groups. In general, the overall position of families improves if, after adjusting for changes in the prices of goods and services, average family income has increased and the proportion of families in lower income groups has decreased. In order to capture changes to both the proportions of families in different income groups and the income shares of each group over time, it helps to arrange families from lowest to highest income and divide them into equal groups. This analysis divides families into 10 equal groups, or income deciles,¹ and

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Table 1: Upper limits of family income deciles and distribution of aggregate family income by deciles

Decile	1970	1980	1985	1990	1995
Upper limit			1995\$		
First	11,968	16,343	15,786	17,549	15,158
Second	19,318	24,287	23,368	25,860	23,184
Third	25,884	32,747	31,271	34,413	31,097
Fourth	31,427	40,294	39,055	42,295	38,988
Fifth	36,622	47,404	46,433	50,111	46,951
Sixth	42,194	54,742	54,248	58,176	55,355
Seventh	48,392	63,203	62,764	67,568	64,997
Eighth	56,816	74,196	73,974	79,903	77,501
Ninth	71,318	92,745	92,725	100,751	98,253
Share of aggregate income			%		
First	1.46	1.48	1.49	1.64	1.45
Second	3.78	3.80	3.75	3.78	3.55
Third	5.48	5.38	5.18	5.27	4.96
Fourth	6.97	6.90	6.70	6.69	6.42
Fifth	8.20	8.25	8.13	8.05	7.86
Sixth	9.53	9.61	9.55	9.44	9.37
Seventh	10.96	11.09	11.09	10.95	10.91
Eighth	12.60	12.86	12.94	12.80	13.11
Ninth	15.25	15.50	15.64	15.53	15.85
Tenth	25.77	25.13	25.53	25.85	26.53

Source: Census of Canada

examines each decile's share of total income between 1970 and 1995 (Table 1).

If all families received identical total income, each decile would receive one-tenth of aggregate income. But decile shares vary considerably. The lower the decile, the smaller its share of aggregate income.² In 1970, the incomes (in 1995 dollars) of the 10% of families at the bottom of the income ladder were less than \$11,968. The incomes of the next

10% of all families (the second decile) were between \$11,969 and \$19,318. By 1995, the upper limits for the first and second deciles had increased, respectively, to \$15,158 and \$23,184.

The decile limits go up in prosperous times and down during recessionary periods. But the changes are not uniform across deciles, especially following recessions. For example, all decile limits fell in the early 1980s. However, those of the top two deciles did so

Definitions

A **census family** is a now-married or common-law couple (with or without never-married children of either or both partners), or a lone parent of any marital status, with at least one never-married child living in the same dwelling.

Family income is the sum of the total incomes of all members 15 years and over during the calendar year preceding the census. It consists of wages and salaries, net income from farm and non-farm self-employment, government transfer payments, investment income, retirement pensions and other money income.

only slightly, while those of the bottom four fell by 3 to 5 percentage points. The effect of the early 1990s recession varied even more across the deciles, affecting their share of total income.

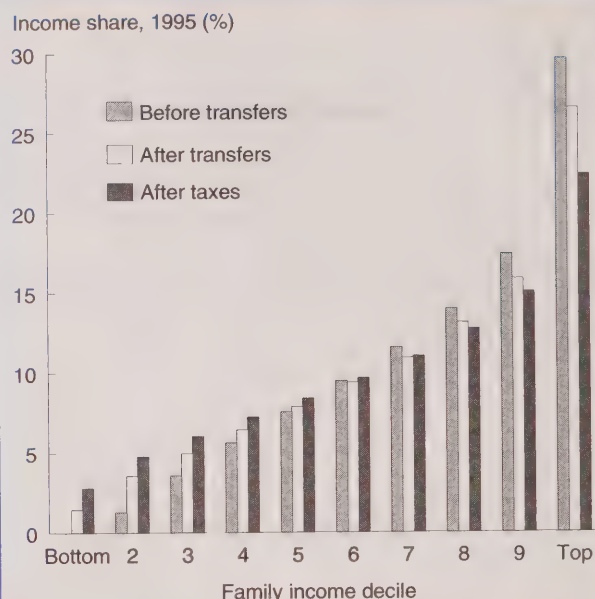
Furthermore, from the second decile up, increases in the upper limits were successively larger (in percentage terms) over the period. The effect of this phenomenon on the relative position of families in various deciles is discussed later.

Transfers and taxes change decile shares

Income shares of families are affected by two fiscal measures. On the one hand, government transfer payments augment the incomes of families at the lower end of the income spectrum, thus increasing their share of total income. On the other hand, personal income taxes reduce the income of higher income families, thus lowering their share of total income after tax.

For example, in 1995 some 10,500 families had zero income,³ while another 10,600 reported negative income (net loss).⁴ By definition, these families are included in the first decile. The remaining families in this decile had low incomes, most of which came from government transfers. Removal of these payments radically changes the income profile of the decile. The number of families with a negative income doubles but, more importantly, the number of families with no income grows to over half a million. The sum of the positive but low incomes of the remaining families is approximately equal to the total losses experienced by about 21,000 families in the decile. As a result, this decile's share of income before transfers and taxes is virtually nil (Chart A).

Chart A: Taxes and transfers tilt the income distribution.



Sources: Census of Canada; Survey of Consumer Finances

Since the rate of tax on personal income is progressive, taxes have a greater effect on upper income families and, consequently, on their relative shares of after-tax income. In 1995, individuals with a total income of \$1 to \$10,000 paid 3.4% in federal and provincial income taxes. The rate increased to 16.5% for the \$30,000-to-\$40,000 bracket, 23.6% for \$50,000 to \$100,000 and 36.3% for \$250,000 and over.⁵

Before taxes and transfers, the income share of families in the first five deciles (half of all families) was 18.0% of the aggregate in 1995. Transfer payments increased their share to 24.3%. The effect of personal income taxes further improved their position, to 29.2% of aggregate income after tax.⁶

Little change over time

The income shares of various deciles changed little between 1970 and 1995. Families in the first group received only 1.46% of aggregate income in 1970. Their share of income crept up very slowly over the years, to reach 1.64% in 1990, then slipped back in 1995 to its 1970 level. The share of families in the

second decile, after minor movements in both directions between 1970 and 1990, fell to 3.55%, below its 1970 level.

A closer examination reveals several points. First, the income shares of families in the first seven deciles decreased between 1970 and 1995 and those of the last three increased. Second, the losses and gains took place following the recessions of the early eighties and early nineties. Third, the largest losses were experienced by families in the third and fourth deciles. The third decile's share of aggregate income declined from 5.48% in 1970 to 4.96% in 1995, while the fourth decile's share declined from 6.97% to 6.42%. The largest gains were realized by families in the highest decile, whose income share increased from 25.77% to 26.53%.

While the changes in the percentage shares of various deciles may appear small, their effect is not. For example, the fourth decile's share declined by 0.55 percentage points between 1970 and 1995. Translated into dollars, this loss amounted to \$3,000 of total income per family in this decile. In contrast, the tenth decile's share increased by 0.76 percentage points. Had this not happened, the average income of families in this group would have been \$4,200 (or 3.0%) lower than it was. On the whole, between 1970 and 1995 the total change in decile shares was less than 2 percentage points. In terms of aggregate income distribution, this amounted to a total transfer of about \$8 billion from the bottom seven deciles to the top three.

Effect of declining family size

Between 1970 and 1995, real average family income increased by 32.0%. Families in the first six deciles experienced below-average increases in their family incomes, while those in the last four saw above-average gains. The increases ranged from 19.4% in the third decile to 37.0% in the ninth.

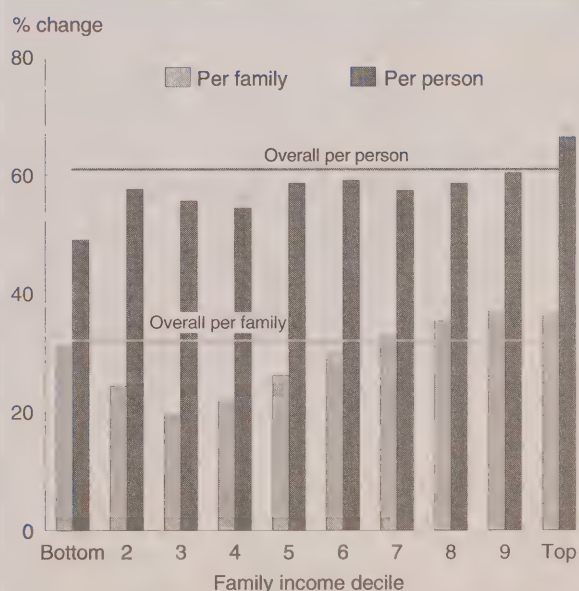
Of two families with identical family income, the smaller family will, other things being equal, enjoy a higher standard of living.⁷ Since average family size declined from 3.72 persons in 1970 to 3.05 in 1995, families were better off financially. Compared with the overall increase of 32.0% in average family income, average income per family member increased by 60.9% over the period. But the decline in family size was not uniform across deciles. Declines in average

family size were below average in the first, seventh, eighth and ninth deciles. The smallest decline occurred in the first decile, from 3.13 persons per family to 2.75, while the largest took place in the third decile, from 3.60 to 2.76.⁸ As a consequence, the degree of income change for family *members* across the deciles differs from the pattern for families (Chart B).

The increase in average income of families in the lowest decile (31.0%) was close to the overall change between 1970 and 1995. However, the per capita income increase for these families (49.0%) was well below the overall change, because the decline in their family size was below the average.

Although average family size declined at an above-average rate in the next four deciles, the per capita increase in family income was below average, because the increase in average family income was below average. The only families experiencing above-average increases in both total and per capita family income were in the top decile.

Chart B: Between 1970 and 1995, families in the first six deciles had below-average increases in real income.



Source: Census of Canada

Changes in composition

The foregoing demonstrates the difficulty of considering income shares in isolation. Another important issue concerns changes in the composition of these deciles during the period under review.

Over time, demographic and broad economic changes can lead to significant changes in income gains or losses for various segments of society. Government policies and programs also bring about shifts in the relative position of certain groups, especially those with low incomes. As a consequence, the composition of deciles changes over time (Table 2).

Changes in family structure

During the period under review, family structure changed substantially. Families headed by female lone parents accounted for 7.3% of all families in 1970. Their proportion increased over the years, reaching 12.1% in 1995. While the total number of families increased by 55.1% over the period, female lone-parent families increased by 155.5%. These families generally have low incomes. The disproportionately large increase in their number changed the overall income distribution and led to changes in the composition of deciles by family structure, particularly in the first few deciles.

Although the lowest decile received less than 1.5% in both 1970 and 1995, the composition of the decile changed substantially over the period. Female lone-parent families made up less than one-quarter of this decile in 1970. By 1995, these families accounted for nearly two-fifths.

The proportion of female lone-parent families in the second decile increased from 14.3% in 1970 to 23.4% in 1995. Although smaller than in the first two deciles, the increase in the next three was also above average.

Changes in spousal work patterns

Major shifts also took place in spousal work patterns of husband-wife families over the period. These resulted in significant changes in income distributions and in the composition of income deciles. The number of families with both husband and wife working has risen steadily and substantially since 1970. Their proportion increased from 38.1% in 1970 to 51.2% in 1995.⁹

This had a two-fold effect on the composition of income deciles. Because such families were more numerous, they made up a larger proportion of almost every income decile. In the first decile, for example, the proportion of dual-earner families increased from 13.8% in 1970 to 16.8% in 1995. Had dual-earner families not grown so much overall, their proportion in that decile would have changed very little.

Even more important (because of their generally higher incomes) the proportion of dual-earner families in the upper deciles increased significantly. In 1970, husband-wife families with both spouses working made up 58.3% of the ninth decile and 49.5% of the tenth. By 1995, four out of five families in these two deciles were dual-earner families.

Second, and as a consequence of the above trend, the proportion of families in which only the husband worked decreased greatly over the period. In 1970, in 43.4% of all families, only the husband worked. The proportion declined by nearly 29 percentage points to 14.8% in 1995. The drop ranged from 14 points in the lowest decile to 34 points in the highest. This, in turn, translated into smaller proportions of such families in all deciles.

Third, the proportion of families in which the husband did *not* work more than doubled during the period, from 9.2% to 19.5%. This increase affected the composition of the second and third deciles in particular. These families accounted for just one-quarter of all families in the second decile in 1970, but for two-fifths in 1995. Husbands did not work in one out of 10 families in the third decile in 1970; by 1995, this was the case in one out of 3 families.

Changes in family structure and spousal work patterns had both positive and negative effects on income. While the increase in female lone-parent families depressed overall family income, the increase in dual-earner families enhanced it. If no changes in family structure and spousal work patterns had occurred, the shares of all deciles but two would have declined. The share of the ninth decile would have increased from 15.25% to 15.55% and that of the tenth would have increased from 25.77% to 27.83%.

Table 2: Distribution of family income deciles, by selected characteristics

	All deciles			First			Second			Third			Fourth			Fifth and sixth			Seventh and eighth			Ninth			Tenth		
	1970	1995		1970	1995		1970	1995		1970	1995		1970	1995		1970	1995		1970	1995		1970	1995		1970	1995	
%																											
Family structure	100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0	
Husband-wife																											
Both worked	38.1	51.2		13.8	16.8		18.2	18.8		25.4	29.2		30.3	39.7		40.0	53.9		52.6	69.7		58.3	79.3		49.5	80.9	
Husband only																											
worked	43.4	14.8		27.2	12.9		38.4	13.3		50.6	17.0		54.9	19.1		50.3	18.4		40.9	14.1		36.2	10.1		44.7	10.9	
Husband did																											
not work	9.2	19.5		31.7	26.0		26.6	41.4		11.5	35.3		6.0	24.9		3.6	16.9		2.3	10.1		2.0	7.2		2.4	5.9	
Male lone-parent	2.0	2.5		3.3	4.5		2.5	3.0		2.4	2.8		2.4	3.1		1.9	2.6		1.4	1.8		1.2	1.2		1.3	1.0	
Female lone-parent	7.3	12.1		23.9	39.7		14.3	23.4		10.1	15.8		6.5	13.2		4.2	8.2		2.7	4.2		2.3	2.2		2.1	1.4	
Age of husband/parent	100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0	
15 to 24	6.4	2.6		9.8	10.7		7.9	4.7		9.3	3.6		8.8	2.6		7.2	1.6		5.2	0.5		2.3	0.2		0.6	0.1	
25 to 34	23.1	18.8		18.0	26.7		18.1	18.7		22.9	18.4		26.8	20.9		27.7	21.7		27.0	19.1		22.8	14.0		13.1	7.7	
35 to 44	23.1	27.3		15.4	26.2		16.6	19.4		20.0	20.9		22.2	25.0		25.3	28.4		26.8	32.5		27.0	32.3		25.8	27.5	
45 to 54	20.7	21.8		14.0	15.9		14.4	11.5		16.6	13.8		17.4	16.4		19.1	19.6		22.4	25.2		27.6	32.2		34.8	38.9	
55 to 64	15.0	14.0		16.4	14.1		14.6	11.5		15.8	13.2		14.7	14.1		13.6	14.2		13.3	13.5		15.1	14.1		19.6	17.7	
65 and over	11.7	15.5		26.5	6.4		28.3	34.1		15.4	30.2		10.1	21.0		7.1	14.6		5.3	9.2		5.2	7.2		7.0	8.1	
Major source of income	100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0	
No income	0.3	0.1		2.9	1.3		-	-		-	-		-	-		-	-		-	-		-	-		-	-	
Wages and salaries	79.3	67.5		29.2	22.4		51.0	31.9		76.8	49.6		87.1	65.8		92.0	78.5		93.9	87.4		93.3	90.0		84.0	83.5	
Self-employment	8.0	5.0		15.4	4.7		12.5	4.8		9.9	5.3		7.1	5.4		5.0	4.5		4.3	3.7		4.7	3.9		11.4	9.5	
Government transfers	8.7	20.0		47.4	65.6		29.5	58.5		6.8	37.9		1.9	19.8		0.6	7.2		0.2	1.6		0.1	0.5		0.1	0.1	
Investment	2.0	2.2		2.9	2.7		3.2	1.7		3.0	2.0		1.8	2.2		1.3	2.2		1.0	1.9		1.2	1.9		3.1	3.6	
Miscellaneous	1.7	5.1		2.2	3.2		3.8	3.1		3.6	5.1		2.1	6.9		1.1	7.6		0.7	5.4		0.7	3.6		1.4	3.3	
Composition of income	100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0	
Wages and salaries	80.6	72.2		41.6	28.0		49.5	29.5		71.7	44.6		81.5	58.0		86.5	70.3		88.7	80.5		87.9	84.1		73.1	75.6	
Self-employment	7.9	5.9		-10.9	-2.5		10.6	3.8		8.5	4.7		6.4	4.9		4.9	4.5		4.6	4.0		5.4	4.2		15.5	10.9	
Government transfers	5.4	12.0		60.1	67.3		29.6	58.5		12.3	37.9		7.0	24.3		4.5	14.3		2.9	7.3		2.2	4.2		1.5	2.2	
Investment	4.1	4.4		5.5	2.2		5.3	3.2		4.0	4.4		2.9	4.0		2.5	3.5		2.5	3.0		3.0	3.2		7.3	7.2	
Miscellaneous	2.1	5.5		3.8	5.0		5.0	5.0		3.5	8.4		2.3	8.8		1.5	7.4		1.3	5.2		1.5	4.2		2.6	4.2	

Source: Census of Canada

Changes in social security

The social security network in Canada has expanded over the years. The overall share of government transfer payments more than doubled, from 5.4% of aggregate family income in 1970 to 12.0% in 1995. These payments include Old Age Security, the Guaranteed Income Supplement, benefits from Canada and Quebec Pension Plans, child tax benefits, benefits from Employment Insurance, and other payments such as GST credits, social assistance to the needy, the disabled and the elderly, and provincial income supplements to seniors.

The changes have affected elderly families primarily. These families dominated the lowest decile in 1970, accounting for 26.5%. By 1995, their proportion was just 6.4%. Younger families (aged 25 to 34) have since become the most common constituent of that decile, growing from 18.0% to 26.7%. These changes in the age composition of the lowest decile stem from two factors. On the one hand, they reflect the disproportionately large growth of lone-parent families headed by younger women. On the other hand, they demonstrate that the increase in government transfer payments, both federal and provincial, has been large enough to ease most of the older families out of the lowest decile.

The move of elderly families out of the first decile resulted in changes to the next two. The proportion of elderly families in the second decile increased from 28.3% in 1970 to 41.7% in 1980, then declined to 34.1% in 1995.¹⁰ In turn, the proportion of elderly families in the third decile doubled over the period, from 15.4% to 30.2%.

Role of transfer payments grows

The structural changes in the composition of various income deciles are further reflected in the distribution of families by major source of family income (Table 2). Earned income (wages and salaries and net self-employment income), though still the predominant source of family income, has declined as a proportion of the total. By 1995, it was the major source for 72.5% of families, compared with 87.3% in 1970. In contrast, government transfer payments had become the major source of income for 20.0% of families, compared with 8.7% in 1970. The latter change reflects increases in families in which the husband did not work, in female lone-parent families, and in elderly families.

The effect of increasing transfer payments on the income composition of families is particularly significant in the second, third and fourth deciles. Compared with 29.6% in 1970, transfer payments accounted for 58.5% of total income for families in the second decile in 1995. The proportions in the third and fourth deciles increased, respectively, by 26 and 17 percentage points.

Summary

Decile shares of family income changed only slightly between 1970 and 1995. The negative effect of two recessions was, however, stronger on families with lower incomes.

During the period, average family size declined. As a consequence, real average income per family member increased by 61%. This compares with 32% for total

family income. However, neither the increase in family income nor the decline in family size was spread evenly across all families: on the whole, shares of the first seven deciles declined slightly and those of the last three increased. Government transfer payments and personal income taxes played a major role in the relative shares of the deciles.

The composition of the deciles changed significantly in terms of family characteristics. The main causes were increases in the numbers of female lone-parent families and dual-earner families, and changes in social security.

Perspectives

Notes

- 1 It is common to discuss this subject in terms of income quintiles. By definition, the first two deciles form the lowest quintile. Deciles were adopted for two reasons. First, the large sample size on which census income estimates are based allows this more detailed division without compromising the reliability of changes within the deciles. Second, an analysis by quintiles would probably hide some important demographic and other changes that occurred over the period.
- 2 For an analysis of changes in family income inequality, see Rashid (1998).
- 3 These families immigrated to Canada in 1996 and had, therefore, no income from Canadian sources in 1995.
- 4 Most of these families operated a farm, business or professional practice from which they reported losses. The remaining families in this group reported losses from investment income.
- 5 These rates are calculated from data in Revenue Canada (1997) (Table 2).

6 Because the census does not collect information on personal taxes, the decile shares of income after tax have been derived from data collected by the annual Survey of Consumer Finances. While the income and family concepts are identical in the census and the survey, the latter does not cover the two Territories. However, this difference does not alter results at the national level. The survey publishes data on different income concepts in its annual publication. See, for example, Statistics Canada (1998) (text table VI).

7 This article has not taken into account the combination of adults and children in families (generally known as the "equivalence scale").

8 The reason for these differences will become clear in the discussion of the move of families from one decile to another.

9 These are dual-earner families as a proportion of all families. The proportions are higher when calculated within husband-wife families: 42% in 1970 and 60% in 1995.

10 For a discussion of changes between 1970 and 1990, see Rashid (1994).

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Seasonality in employment

Katherine Marshall

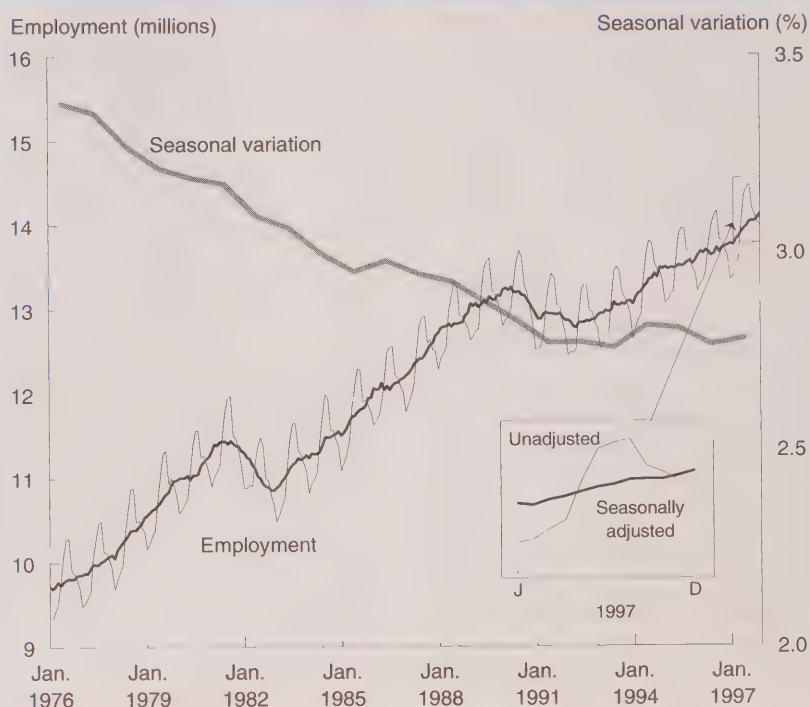
Canadians like to talk about the weather, but few may fully appreciate the effect it has on employment. Employment levels rise by up to one million throughout the spring and summer, and then drop by the same extent through the fall and winter. In part, this is because farming and outdoor work, such as logging or construction, flourish in fair weather. Institutionalized schedules and events, such as school terms and Christmas and Easter holidays, also affect employment. These “seasonal” swings in employment usually follow a regular pattern each year (see *Data sources and definitions*).

The month-to-month employment changes caused by seasonality can distort perceptions of the current economic situation, and obscure long-term growth trends or turning points in the economy. In order to identify trends and turning points, employment estimates must be seasonally adjusted, which means that regular seasonal fluctuations are removed (see *Technique for seasonal adjustment*).

However, seasonality is important in and of itself, because it adds a burden to the economy. The short-term use of seasonal labour is a more costly process than a

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Chart A: While employment has increased, the extent of seasonal variation has decreased.



Source: Labour Force Survey

steady use of labour throughout the year. “Like the business cycle, seasonality introduces a disequilibrium in the allocation of resources, thus implying an extra cost” (Statistics Canada, 1982). A better understanding of seasonal employment patterns may help to manage and possibly reduce these shifts, thus benefiting the economy.

This paper examines the change in seasonal employment patterns over the past two decades, and looks at how various industries, demographic groups and regions have been affected. Also examined are the characteristics of the 327,000 paid workers who described their jobs as seasonal in 1997.

Data sources and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that collects detailed information on labour market activity from all persons 15 years and over. Its current and historical collection of seasonally adjusted and unadjusted employment and unemployment figures are crucial in the study and forecasting of economic trends. Labour market activity is based on the information given at the time of the survey, usually for the week including the 15th of the month.

The **Survey of Consumer Finances (SCF)** is an annual April supplement to the LFS. It collects data on the annual income and labour activity of individuals, families and households. Labour activity is based on total work experience in the previous calendar year.

A **seasonal pattern** reveals regular increases and decreases that repeat year after year in a time series of estimates. These movements reflect annual climate cycles or recurring institutional events. The seasonal pattern is one of four factors that can affect an economic time series (see "time series").

Seasonal adjustment changes data in order to remove the seasonal pattern from the data series. This allows for a better reading of the long-term and cyclical movements in the economy. The adjustment is calculated using a complex statistical procedure (see *Technique for seasonal adjustment*). The annual average of a seasonally adjusted series equals the average of the unadjusted series.

Seasonal variation (or **seasonality**) refers to the degree to which employment rises and falls because of the seasonal pattern (caused by climate and/or institutional events). It governs the extent to which employment estimates must be changed in order to remove the seasonal pattern. It is calculated by taking the absolute value of the difference between the unadjusted and adjusted counts averaged over 12 months. The average monthly employment adjustment

count can also be expressed as a percentage of annual average employment. For example, in 1997 the seasonal variation for construction was 9.5%, meaning that, on average, monthly unadjusted employment estimates were increased or decreased by 9.5% in order to remove the seasonal pattern. Total seasonality in the economy is derived by summing the seasonal variation from all major industry groups.

Weighted seasonality takes into account how much seasonal variation exists within each industry, vis à vis its relative size in the economy (employment share). Seasonal variation multiplied by employment share (weighted seasonality) summarizes an industry's overall contribution to total seasonality.

A **time series** is a consistent, historical compilation of data (in this case, labour market activity) through time at equal intervals. Four factors can cause fluctuations in a time series: seasonal variation (see definition), trend, cycle and irregularities. Trend refers to increases or decreases observed over a long period of time. Cycle refers to the business cycle, which is a periodic expansion or contraction of the economy. Irregular fluctuations include unusual events such as floods, storms or strikes, as well as sampling variability; they are the random component of a time series.

A **seasonal job** is a non-permanent paid job that will end at a specified time or in the near future, once the seasonal peak has passed.

A **seasonal worker** is a paid employee who, at the time of the survey, reported having a seasonal job. Although the LFS includes both long-term seasonal workers (those who come back to the same work every year) and those who are first-time or occasional seasonal workers, it cannot differentiate between the two.

Declining seasonality

In Canada, employment regularly swells from May through October, and then declines for the next six months (Chart A). This seasonal pattern occurs in most industries, but not all. For example, employment in agriculture; fishing and trapping; non-durable manufacturing; and wholesale trade follows this course. Logging and forestry, and construction hold a similar pattern but show seasonal employment gains in November as well.

Employment in retail trade increases from May to December and declines in the other four months. Government services; finance, insurance and real estate; health and social services; and business and personal services all have high seasonal employment from June through September. Educational services is the least typical industry, with declining employment levels through the summer months and above-average levels at all other times.

Since the busy season varies by industry throughout the year, some monthly "off-setting" in total seasonal employment swings is inevitable. In other words, total seasonality for any given month is the net result of the positive and negative employment swings of all industries. In order to view the full extent of overall seasonal employment shifts, this paper examines seasonality within each major industry, and then estimates its contribution to the seasonality of total employment.¹

The seasonality of total employment declined from 3.4% in 1976 to 2.8% in 1997, roughly its position for most of the 1990s (Chart A). In 1976, the average monthly rise or fall in employment due to seasonality was 330,600, or 3.4% of the 9.8 million annual average; by 1997, monthly swings averaged 387,600, or 2.8% of 13.9 million. Even though annual seasonal variation declined in percentage terms, the average monthly employment affected grew, because of a 43% increase in total employment.

Effect of industry

To determine where and why seasonality has declined, it is necessary to look at changes by industry. An individual industry contributes to total seasonality in two ways: its degree of seasonality or seasonal variation; and its employment share. The product of these two factors, weighted seasonal variation, expresses an industry's effect on the overall total. Therefore, a change in seasonal variation, employment share, or both, can alter an industry's contribution to the seasonality of total employment. For example, in 1976 both the agriculture, and business and personal services industries accounted for 0.4 or 13% of the 3.4 total weighted seasonal variation in the economy (Table 1). Agriculture's contribution came mainly from its higher-than-average seasonal variation (8.9%), while business and personal services' was from its proportionally large employment share (0.1, or 12% of all employment). By 1997, even though seasonal variation had decreased in both these industries, agriculture's overall contribution to total weighted seasonal variation had decreased to 0.2 (or 7% of the total 2.8), while business and personal services' had increased to 0.5 (19%). This is because the former's employment share had decreased since 1976 and the latter's had increased.

Two dominant trends have contributed to the overall decline in seasonality. First, since 1976 seasonal variation has declined in most industries; second, employment has shifted away from highly seasonal industries² – agriculture; fishing and trapping; logging and forestry; and construction – industries that, not surprisingly, are most affected by the weather. In fact, among the highly seasonal industries, the combination of less seasonal variation and reduced employment share has resulted in a decline in weighted seasonal variation from 1.3 to 0.8, which represents 83% of the total decline in seasonality since 1976. Agriculture and construction, because of their relatively

large employment share, accounted for most of the decline.

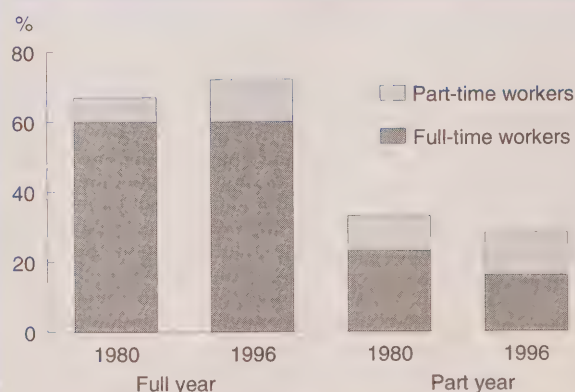
Why less seasonal variation?

Despite global warming, Canada still has, for the most part, four distinct seasons. School sessions and major holidays have also remained constant. So why is the economy becoming less affected by seasonal employment swings?

One reason, as stated, is the proportionally smaller employment in highly seasonal industries in 1997. Employment levels in these industries have declined in part because of an increasing demand for services and a decreasing demand for goods. Technological advances are also a factor. For example, increased use of automation during the peak season has cut down on the amount of extra labour needed. "Virtually all areas within the industry [retail trade] have cut back on their need for additional labor during the 'busy season' by adopting some sort of labor-saving mechanism" (Rydzewski, Deming and Rones, 1993). And advances in materials and building techniques, such as cold resistant concrete mix or the plastic covering of whole buildings, have enabled some construction to continue all year.

Another reason most industries have less seasonal variation today is the trend toward more full-year employment, and increased hours, for part-time workers. For example, the percentage of earners working full year³ increased from 67% in 1980 to 72% in 1996 (Chart B). All of the increase was attributable to

Chart B: More part-timers are working full year.



Source: Survey of Consumer Finances

Table 1: Seasonal variation, employment share and weighted seasonal variation by industry

	1976			1997			Change in weighted seasonal variation** 1976-1997
	Seasonal variation	Employment share*	Weighted seasonal variation**	Seasonal variation	Employment share*	Weighted seasonal variation**	
	%			%			
All industries	3.38	1.00	3.38	2.78	1.00	2.78	-0.60
Goods-producing	5.09	0.36	1.81	4.65	0.27	1.26	-0.55
Primary industries	8.58	0.07	0.63	6.76	0.05	0.35	-0.28
Agriculture†	8.94	0.05	0.44	6.58	0.03	0.20	-0.24
Fishing and trapping†	26.77	-	0.05	12.74	-	0.03	-0.02
Logging and forestry†	13.98	0.01	0.10	12.08	0.01	0.07	-0.03
Mining, quarrying and oil wells	2.41	0.02	0.04	3.60	0.01	0.05	0.01
Utilities	2.59	0.01	0.03	3.43	0.01	0.03	-
Manufacturing	2.15	0.20	0.44	2.38	0.16	0.37	-0.07
Non-durables	3.00	0.10	0.31	2.59	0.08	0.20	-0.11
Durables	1.26	0.10	0.12	2.17	0.08	0.17	0.05
Construction†	10.57	0.07	0.71	9.46	0.05	0.51	-0.20
Service-producing	2.44	0.64	1.57	2.09	0.73	1.52	-0.05
Transportation, storage and communication	2.17	0.08	0.16	2.03	0.06	0.13	-0.03
Trade	1.44	0.17	0.25	1.37	0.17	0.23	-0.02
Wholesale trade	1.73	0.05	0.08	2.23	0.05	0.10	0.02
Retail trade	1.34	0.13	0.17	1.05	0.12	0.13	-0.04
Finance, insurance and real estate	1.18	0.05	0.06	0.68	0.06	0.04	-0.02
Community, business and personal services	2.82	0.27	0.76	2.52	0.38	0.96	0.20
Educational services	3.87	0.07	0.27	4.89	0.07	0.34	0.07
Health and social services	0.99	0.08	0.08	0.77	0.10	0.08	-
Business and personal services	3.40	0.12	0.42	2.60	0.21	0.54	0.12
Government services	4.64	0.07	0.33	2.80	0.06	0.16	-0.17
Highly seasonal industries†	10.39	0.13	1.30	8.77	0.09	0.81	-0.50
Non-highly seasonal industries	2.38	0.87	2.08	2.17	0.91	1.97	-0.11

Source: Labour Force Survey

* Employment expressed as a proportion (that is, individual industry employment divided by total employment).

** Seasonal variation multiplied by employment share. It represents an industry's contribution to total seasonality in the economy.

† In these industries seasonal variation is more than double the overall average.

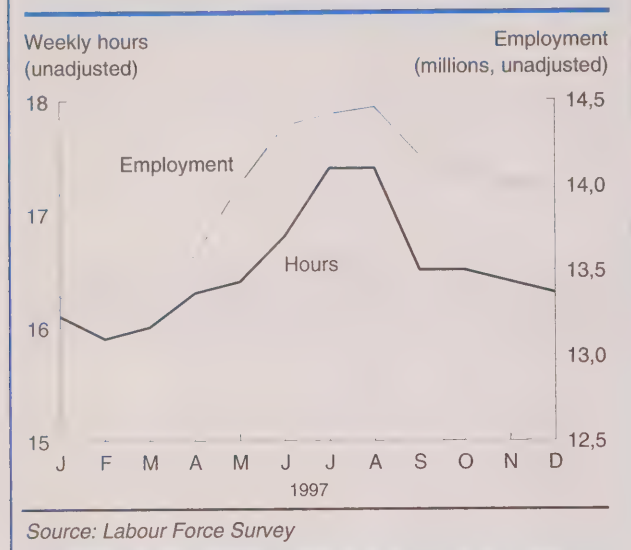
part-time workers⁴ working year round (whose proportion grew from 7% to 12%). Consequently, part-year employment decreased from 33% to 28%, with all of the decrease coming from those with full-time hours. From 1980 to 1996, full-time part-year work decreased from 23% to 16%, while part-time part-year work increased from 10% to 12%.

More full-year part-time workers give employers the flexibility to simply increase the hours of such workers during the busy season rather than hire seasonal workers. Part-time workers increased their hours from 15.9 in February 1997, for example, to 17.4 in July and August (Chart C). On average, part-time hours per week increased from 15.5 in 1976 to 16.5 in 1997.

Fewer youths means less seasonality

As in the total economy, the ebb and flow of employment due to seasonal fluctuations has declined for both men and women. Although seasonal employment shifts have traditionally been greater for men, who have dominated primary and construction industries,

Chart C: Part-time hours and employment follow a similar seasonal pattern.



weighted seasonal variation has declined for both sexes. Seasonal variation decreased by 16% for men (3.2 to 2.7), and 26% for women (2.3 to 1.7) (Table 2). For both men and women, the drop in seasonality results largely from the decline in the employment share of young adults aged 15 to 24 – a group with consistently high seasonal employment swings (tied largely to the school calendar). That decline is the result of an aging population, which now has fewer 15 to 24 year-olds than it did 20 years ago. In addition, employment rates have decreased for young people. The drop in a traditional source of seasonal labour (youths) may be another reason behind employers' use of more full-year workers.

Seasonality remains high in the East

Since 1976, seasonality in employment has dropped in all provinces except Prince Edward Island.⁵ However, the degree of seasonality remains well above average in Newfoundland and New Brunswick (Chart D). Generally, provinces with above-average seasonality tend to have higher-than-average proportions of highly seasonal industries (agriculture; fishing and trapping; logging and forestry; or construction). But the type of highly seasonal industry also makes a difference. For example, compared with an overall average of 9.2%, proportions of highly seasonal industries in both Prince Edward Island and Saskatchewan were

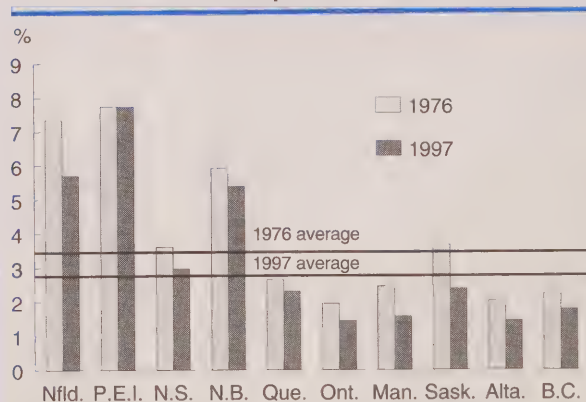
exceptionally high in 1997 (18.7% and 19.3%, respectively). Saskatchewan's seasonality rate was much lower than that of Prince Edward Island, however, because agriculture, the least seasonal of the industries in question, accounted for most of it. The Maritime province had a well above-average representation in fishing – not only the most seasonal of all industries, but one of growing importance to employment on the island over the past 20 years.

Seasonal workers

Seasonal adjustment factors can provide broad indications of the industries and demographic groups most affected by seasonal employment. But because these estimates are based on movements of total employment, they cannot measure the number of seasonal jobs, nor the characteristics of such jobs or the workers in them. Specific information on seasonal employment can be obtained from the LFS, which (since 1997) asks paid workers whether their job is permanent or not, and if not, the reasons why. In 1997, an average of 327,000 persons worked in a non-permanent job because it was seasonal – representing 2.9% of all paid workers.

Before looking at the characteristics of seasonal jobs and workers, it is useful to examine their relationship with seasonality in total employment. That seasonality in total employment reflects things other than just the annual work patterns of seasonal workers is reflected in the employment patterns for both (Table 3). In

Chart D: Seasonality has declined in most provinces.



Source: Labour Force Survey

Table 2: Seasonal variation, employment share and weighted seasonal variation by age and sex

	1976			1997			Change in weighted seasonal variation** 1976-1997
	Seasonal variation	Employment share*	Weighted seasonal variation**	Seasonal variation	Employment share*	Weighted seasonal variation**	
	%			%			
Men	3.21	1.00	3.21	2.70	1.00	2.70	-0.51
15 to 24	8.49	0.22	1.88	9.01	0.14	1.24	-0.61
25 and over	1.71	0.78	1.33	1.69	0.86	1.46	0.12
Women	2.26	1.00	2.26	1.68	1.00	1.68	-0.58
15 to 24	5.39	0.32	1.71	6.93	0.15	1.07	-0.68
25 and over	0.80	0.68	0.55	0.72	0.85	0.61	0.07

Source: Labour Force Survey

* Employment expressed as a proportion (that is, age group employment divided by total employment for all ages).

** Seasonal variation multiplied by employment share. It represents an age group's contribution to total seasonality in the economy.

Table 3: Seasonal employment and seasonal adjustment, 1997

	Seasonal employment	Seasonal adjustment*
	'000	
January	130.5	483.7
February	134.3	477.5
March	134.5	425.3
April	156.5	352.8
May	336.6	-136.5
June	528.6	-407.0
July	645.4	-685.3
August	636.7	-710.8
September	423.2	-272.8
October	353.3	-185.3
November	242.3	212.1
December	201.2	302.5

Source: Labour Force Survey

* The change made in order to remove seasonal movements.

1997, the number of seasonal workers varied from 131,000 in January to 645,000 in July – a difference of 514,000. However, the range in seasonal adjustment factors was 1,195,000 (an upward adjustment of 484,000 in January and a downward adjustment of 711,000 in August).

In other words, the annual swing in employment levels was more than twice as great as the swing in the number of seasonal workers.

Clearly, far more than seasonal work is responsible for seasonality in total employment. Millions of hirings and separations occur in the labour market each year, and these contribute to the seasonal patterns in total employment (as measured by the seasonal adjustment program) (Statistics Canada, 1998). Only a small fraction of these hirings and separations involve non-permanent seasonal jobs. Furthermore, even in December and

January, when the overall seasonal employment pattern is low, a substantial number of seasonal jobs are in demand (201,000 and 131,000, respectively).

Of those who had a seasonal job in 1997, some 42% were under age 25, compared with just 16% of those in non-seasonal jobs. And whereas an equal proportion of young men and women worked in non-seasonal jobs, two-thirds of young employees in seasonal work were men. Considerably more adult men than women did seasonal work as well (41%, compared with 17%). This finding is consistent with the fact that 35% of seasonal employees worked in a highly seasonal industry (agriculture; fishing and trapping; logging and forestry; or construction), which employed more men than women. Just 6% of workers with a non-seasonal job reported working in one of the highly seasonal industries.

Technique for seasonal adjustment

Seasonally adjusted data are produced using a statistical program called X-11-ARIMA. This program estimates the seasonal pattern in the current data by basing it on past seasonal fluctuations, using moving averages. Only after the addition of several years of new data is any change in the pattern confirmed. Technically, just one month of new data will yield a more reliable revised estimate than that first

published. However, since monthly recalculations would be too cumbersome, seasonally adjusted figures are revised just once a year. Also, because of the length of the moving averages, these revisions cease once three years of new data have been added to the series. For example, in January of every year the LFS revises its seasonally adjusted time series back three years.

Conclusion

It has become standard practice to seasonally adjust labour force data. The removal of "predictable" seasonal fluctuations in an economic time series allows for easier analyses of long-term or business cycle trends.

However, over the past 20 years seasonal employment fluctuations in the economy have been diminishing. In 1976, monthly seasonal variation between unadjusted and adjusted employment estimates averaged 3.4%, but by 1997 it had declined to 2.8%. Some possible reasons for the decline in seasonality include the trend toward a more service-based

economy, technological advances, and the increasing use of full-year, part-time workers. Although seasonality will continue to be a factor in the Canadian economy, the trend toward a more steady and even use of labour can be viewed as a positive change in labour market activity.

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Notes

1 Although measuring seasonality at the major industry group level helps minimize seasonal employment off-setting, it cannot eliminate it. This is because individual industries within the major group can experience positive and negative employment swings within the same month.

2 In this paper, a highly seasonal industry is one with more than double the overall average seasonal variation in both 1976 and 1997.

3 Prior to 1981, the Survey of Consumer Finances defined full-year as 50 or more weeks per year; as of 1981, full-year means 49 weeks or more.

4 The LFS also shows a trend toward more part-time work, from 12.5% in 1976 to 19.0% in 1997. The rates noted by the two surveys differ because the LFS asks about work status for a given week while the SCF asks about work experience over an entire year.

5 Off-setting within individual industries was not examined at the provincial level.

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Speaking of the weather...

Occasionally, Mother Nature throws a curve into regular routines. Such was the case with the January 1998 ice storm. Seasonal adjustment can compensate only for normal annual patterns. However, "irregular" events such as the ice storm are still evident in the adjusted data.

The ice storm created havoc in many communities in eastern Canada. Over 2.6 million people, representing 19% of all employment in Canada, were either prevented from getting to work or impeded

in their efforts to do so. In the worst hit areas — those receiving over 100 mm of freezing rain — close to 50,000 jobs were affected. The hardest hit was Quebec, where over 2 million workers were affected by the storm and 135,000 lived in municipalities in which power was not fully restored before January 17, some 10 days into the storm.

Source: Statistics Canada, *The St. Lawrence River Valley 1998 Ice Storm: Maps and Facts*, Catalogue no. 16F0021XIB.

Perspectives

Obtaining a job

Lee Grenon

Some 8.4 million job hirings took place during 1994 and 1995. Nearly half (46%) of all job placements came about through job seekers' direct contact with an employer, either in person or by telephone. In most cases, these people were unknown to the employer and had only limited knowledge of the firm. Other successful job searches involved "networking" with family or friends. Such was the case for almost one-quarter of all jobs considered in this study (Chart). About one in 10 resulted from employer referrals or from direct contact initiated by an employer.

Newspaper advertisements, employment agencies and unions, among other intermediary sources, were less likely to lead to a job.

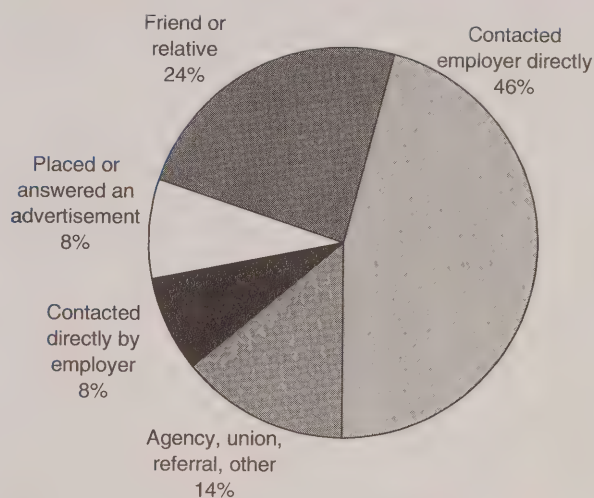
Averages provide an overview of the ways in which people find work. But a person's work history and the hiring practices of firms also affect the outcome of a job search. This study, which complements *Perspectives'* Autumn 1998 article on job search methods, examines how a worker's experience, a firm's size and a firm's private or public status influence the matching of jobs and workers. It uses 1994 and 1995 data from the Survey of Labour and Income Dynamics (SLID) (see *Data source and definitions*).

Matching people and jobs

Most job seekers gather information about prospective employers and job opportunities, and then offer their services to an employer (Grenon, 1998). They may study job advertisements, talk with friends and family, contact a public employment agency or a union, or conduct "information" interviews with employers or workers. They may then offer their labour by contacting an employer directly, speaking

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Contacting an employer, friend or relative may be the most effective means of finding work.



Source: Survey of Labour and Income Dynamics, 1994 and 1995

with friends or family, using an employment agency or union, or placing or responding to job advertisements. Together, these activities can lead to a job.

Hiring practices also affect the filling of job vacancies. How a firm recruits workers is related to how it shares job information (Fevre, 1989). Employers use two broad recruiting techniques. Formal techniques involve a market intermediary such as an advertisement, public or private employment agency, or union (Marsden and Campbell, 1990). Informal techniques involve individual contacts such as current employees, colleagues in other firms, or peers in professional associations.

Data source and definitions

The Survey of Labour and Income Dynamics (SLID) is a longitudinal household survey conducted by Statistics Canada. SLID provides both longitudinal and cross-sectional (that is, annual) estimates of labour, income and families in Canada.

This study examines paid jobs (a maximum of six per respondent in each year) begun between January 1, 1994 and December 31, 1995. Respondents must have been between 16 and 69 on December 31 of the year in which the job began. For SLID's purposes, a **job** represents a period during which a worker is continuously employed by an organization. This period of attachment may include spells of temporary layoff or absences due to own illness or disability, family or personal responsibilities and vacation. Absences from a job do not include off-season separations from seasonal jobs. Seasonal jobs with the same employer are considered new jobs.

An additional 957,000 paid jobs were started during this period for which information on method of attainment was not stated. These jobs are excluded from this analysis. As well, employees who changed jobs with the same employer without an interruption in employment are also excluded, since information on how these jobs were obtained was not collected.

For each week of the reference year, the **labour force status** of respondents may be employed, unemployed, not in the labour force, or not known. For more information on labour force classification in SLID see Noreau, Hale and Giles (1997).

The **size of the firm** is the number of employees at all locations of the firm.

Work experience is estimated in full-year full-time equivalents based on the individual's work history (excluding jobs held while in school). The estimate is updated to the end of each year.

Although job seekers may use a combination of methods to obtain a job, this study is concerned with the main one only. SLID asked workers to recall the method they considered to be the most important in obtaining a job (see *How jobs are obtained*). Not surprisingly, they frequently named the one directly preceding an offer of employment. As direct contact with an employer was the most common means of looking for work (Grenon, 1998), it was also the most common means of obtaining a job.

Lack of experience hurts

Limited work experience tends to restrict a person's means of finding a job. Those with the least work experience, typically youths, are the most likely to obtain work by contacting employers directly (49% in 1994 and 1995) or by hearing of opportunities from family and friends (27%) (Table). As they acquire more experience, they tend to develop professional relationships that help create other opportunities for employment.

The jobs most often filled through direct contact with an employer were in sales and service (53%). Primary occupations, transport equipment operating, and material handling and other crafts were the most likely jobs to be found through family and friends.

Work experience opens more avenues

Experienced workers are often able to take advantage of a direct offer from an employer, access to a union, or referral from another employer. These options are possible for several reasons. Increased work experience may foster relationships between a worker and one or more employers. Thus, a person's work history, if positive, engenders trust and can make an offer of employment more likely. This scenario is most common in managerial and professional and construction jobs (11% in 1994 and 1995). Employers may also share information with others or provide referrals for former or departing employees. This is most common in educational services, where referrals accounted for one in 13 jobs in the mid-1990s. Such relationships are said to create "social capital," which increases with a person's work experience (Bridges and Villemez, 1986). Also, seniority privileges, based on years of work, are important in the hiring process for some unionized jobs, particularly in construction, where an average 13% of jobs were filled through a union during the study period.

A current working relationship is also important in the hiring process. For example, among all jobs started in 1994 and 1995 by someone who was working the week prior to receiving the job offer, 10% were the result of the employer's direct contact (Table). This was the case for only 6% of jobs started by persons not employed in the week prior to receiving the job offer.

How jobs were obtained, by selected characteristics, 1994 and 1995

	Jobs started in 1994 and 1995	Main method of obtaining job							
		Contacted employer	Friend/relative	Job ad	Employer approach	Agency	Union	Referral	Other
		%							
Both sexes	100	46	24	8	8	4	4	2	4
Men	100	44	25	7	8	4	5	2	3
Women	100	49	22	9	8	4	2	2	4
Years of work experience									
0 to 4	100	49	27	7	6	5	2	1	4
5 to 9	100	45	20	9	8	6	4	3	5
10 to 19	100	44	19	10	11	4	6	3	3
20 and over	100	37	18	6	17	4	9	5	4
Labour force status during week prior to job offer									
Employed	100	45	22	10	10	4	3	3	3
Not employed	100	47	25	8	6	5	4	1	4
Education									
Less than high school	100	47	28	5	6	3	5	2	3
High school graduation	100	45	27	8	9	3	2	2	3
Some postsecondary education	100	48	25	9	7	5	1	1	4
Postsecondary diploma, certificate or degree	100	46	19	10	9	5	5	2	4
Occupation									
Managerial and professional	100	47	14	9	11	5	3	4	7
Clerical	100	43	25	11	6	7	2	--	5
Sales and service	100	53	24	9	7	3	1	1	2
Processing, machining and fabricating	100	43	26	7	7	7	5	--	4
Construction	100	38	28	3	11	3	13	--	2
Other occupations *	100	43	30	7	9	3	4	--	2
Firm size **									
Under 20	100	43	29	7	9	4	3	1	3
20 to 99	100	46	22	10	7	5	3	3	3
100 to 499	100	46	23	8	7	4	6	2	5
500 and over	100	50	18	8	7	5	4	2	5
Sector									
Private	100	46	25	8	8	4	4	2	3
Public	100	50	10	8	9	7	3	3	9
Industry									
Primary	100	44	30	4	12	3	4	--	2
Manufacturing	100	41	28	8	6	7	5	2	3
Construction	100	36	30	3	11	3	13	--	3
Transportation, communication and other utilities	100	44	26	11	8	--	--	--	--
Trade	100	51	24	9	7	3	--	--	3
Finance, insurance and real estate	100	42	22	12	--	--	--	--	--
Health and educational services	100	47	15	10	10	5	3	4	6
Accommodation, food and beverage services	100	58	22	9	5	3	--	--	--
Government services	100	46	11	9	7	10	--	--	12
Other services †	100	44	24	9	9	6	2	2	4

Source: Survey of Labour and Income Dynamics, 1994 and 1995

* Primary occupations, transport equipment operating, material handling and other crafts.

** Number of employees at all locations of the firm.

† Business, personal, religious, amusement and recreational, and miscellaneous services.

How jobs are obtained

Information on job search methods has been collected by the Labour Force Survey for many years. However, information on which means were most important in obtaining a job has only recently become available through the Survey of Labour and Income Dynamics (see *Data source and definitions*). Each January, interviews focus on labour and personal characteristics. Respondents are asked to identify how each new job was obtained:

- contacted employers directly
- contacted friends or relatives
- placed or answered job advertisements

- contacted employment agency (including Canada Employment Centres)
- obtained referral from another employer
- contacted directly by employer
- contacted union
- other – specify
- did not know
- refused

This information applies only to paid jobs of respondents who were between 16 and 69 at the end of the year in which the job began. Information for a maximum of six jobs per respondent is collected in each reference year.

Employers differ in their approach

The matching of people and jobs is also a consequence of the hiring practices of employers, which are related in part to the size of the firm. Small firms are the most likely to hire employees through family and friends, but the least likely to recruit from those who directly contact the firm (Table). As firm size increases, so too does the likelihood of recruiting from those who make direct contact with the employer. Hiring through family and friends diminishes accordingly. This pattern may be related to the more formalized human resource procedures of larger firms and the more flexible and informal hiring practices of smaller firms.

Differences in hiring practices influence how workers obtain jobs in the private and public sectors. In 1994 and 1995, one in 4 jobs with private firms came about through

family and friends. Only one in 10 jobs began this way in the public sector. As well, public employers were slightly more likely than private firms to recruit workers from among those who had contacted them directly (50% versus 46%) or through an employment agency (7% versus 4%).

Employers may find that hiring through friends and family provides more reliable information about a prospective employee than does using more formal techniques (Mencken and Winfield, 1998). Some offer bonuses to employees who locate “good” recruits. Such recruitment programs are intended to reduce mismatches between people and jobs, and to lower employee turnover costs (Simon and Warner, 1992). As well, a worker recruited by a family member or friend is more likely to conform to organizational norms (Grieco, 1987). The advantages may be most important to smaller private

employers, who lack the finances and dedicated personnel resources of larger firms (Marsden and Campbell, 1990). As well, smaller employers may receive fewer unsolicited applications for employment than larger employers.

Formal hiring techniques such as job advertisements make information available to a large labour market and generate a larger pool of applicants than do informal techniques. Formal methods are useful for employers moving to a new location, beginning a new activity, or recruiting for entry level positions (Marsden and Campbell, 1990).

Employers may also be more likely to invest time and money in the formal recruitment of workers with specific knowledge, skills or experience. Certain jobs may be harder to staff internally, and unsolicited applications from qualified candidates may be fewer.

For example, at 10%, postsecondary graduates were twice as likely as those with less than high school to find work through a job advertisement in 1994 and 1995. However, they were less likely than others to make use of informal recruitment through family and friends.

Conclusion

Contacting employers and networking with family and friends are the dominant means of obtaining a job. Other methods are less common. These include placing or answering job advertisements, being contacted directly by an employer, contacting employment agencies and unions, or having another employer make a referral.

The way a job is obtained depends on the job seeker's work experience and the employer's characteristics. As work experience increases, the methods of obtaining work become more diverse. Increased experience gives an employee time to develop working relationships that may become important during the hiring process. Being currently employed may also be important. As well, work experience helps to accumulate the seniority required for many unionized jobs.

The size and private or public status of a firm also affect how jobs are filled. Larger firms, particularly public sector employers, are more likely than smaller firms to hire persons who contact them directly, but less likely to use personal contacts. Smaller firms may have more flexible hiring practices, may need to minimize costs involved in hiring, and may receive fewer unsolicited applications for employment than larger firms.

Hiring practices may reflect broad economic and technological changes. New forms of business

organization, such as joint ventures and strategic alliances, as well as the use of out-sourcing, may change the hiring practices of many firms and the way that internal and external labour markets are viewed. The spread of new information technology like the Internet may also affect hiring practices. For example, these innovations may reduce the duration cost of formal recruiting (that is, the time taken to fill a vacancy) relative to that of informal recruiting (Mencken and Winfield, 1998). Reducing the duration costs of vacancies may become even more important if firms continue to shift from mass production to "just in time" production requiring flexible staffing.

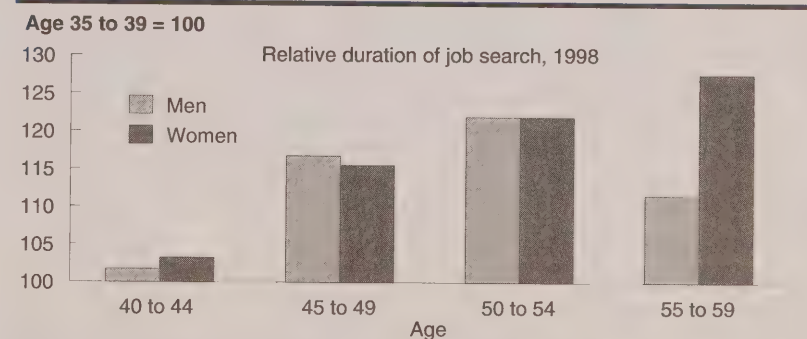
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Speaking of getting a job...

The accompanying chart shows the relative time taken by older job seekers to find work, compared with those aged 35 to 39 (who took about seven months to secure a job). Women aged 55 to 59 had the longest search.



Source: Labour Force Survey

Perspectives

Paying off student loans

Warren Clark

Traditionally, financing postsecondary education has been the joint responsibility of society (through tax dollars) and students and their parents (through personal savings). Since 1980, tuition fees have grown by 115% while average family income has risen by only 1%, after inflation. The result is increased pressure on students to find other ways to pay for postsecondary education. A government-sponsored loan is one option.

Although student loans provide essential financial help for many, they are not without risk. Some observers have expressed concern about the effect of student debt levels on both the graduates and society. Are students defaulting on loans, particularly if they are unable to find well-paying jobs after graduation? Using data from the National Graduates Survey (NGS), this article assesses the debt and repayment record for holders of college certificates and diplomas and of bachelor's degrees. It also considers the effect of high debt on these graduates (see *Data source*).

Adapted from an article in Canadian Social Trends (Catalogue no. 11-008-XPE) no. 51 (Winter 1998): 24-28. Warren Clark is with the Housing, Family and Social Statistics Division. He can be reached at (613) 951-2560 or clarwar@statcan.ca.

Data source

In June 1997, Statistics Canada, in partnership with Human Resources Development Canada (HRDC), interviewed nearly 43,000 people in the National Graduates Survey. This sample represented over 295,000 Canadian residents who had graduated from trade/vocational, college or university programs during 1995. The survey focused on the education, training and labour market experiences of these graduates in the two years immediately following graduation. Graduates were also asked how they had financed their education (including the extent of any student loans, scholarships or bursaries) and whether they had had difficulty repaying their student loans.

As well, the survey asked how much they owed to government-sponsored student loan programs at graduation in 1995, and at the time of the interview. In addition, it asked about money owed to other sources.

The results presented in this article are for graduates of **college** (community college and similar institutions) programs and **bachelor's** degree programs. Undergraduate certificates and diplomas and first professional degrees (for example, medicine, dentistry, veterinary medicine and law) are excluded from the bachelor's degree group. Results for 1982, 1986 and 1990 graduates provide a comparison.

Borrowing patterns vary

Student loan programs aim to help students of limited financial means acquire postsecondary education (see *Canada Student Loans Program* and *Student loans in the United States*). Eligibility is based on students' living arrangements, education, living costs and financial resources, including parents' income and contributions.

When asked how they had financed their education, both college and university³ graduates most frequently identified employment earnings (59% college, 69% bachelor's) and student loan pro-

grams (41% college, 42% bachelor's) as primary sources of funds. Parents ranked a close third for respondents with bachelor's degrees. Graduates rarely cited scholarships, fellowships, prizes, grants or bursaries.⁴

This study found that graduates whose fathers had not completed high school were more likely to use government-sponsored student loan programs than those whose fathers had graduated from university.⁵ However, while the use of student loans decreased as fathers' education increased, borrowing from other sources (for example, personal loans, loans from relatives

Canada Student Loans Program

Human Resources Development Canada (HRDC) estimates that in 1996, the typical living costs for an eight-month college or university program were between \$10,000 and \$13,000 for students living away from home, and between \$3,400 and \$6,400 for students living with their parents. Based on these estimates, the cost of a four-year program can exceed \$50,000 and \$25,000, respectively (HRDC, 1998).

The Canada Student Loans Program (CSLP) allows eligible Canadian citizens and permanent residents to finance their postsecondary education with government-sponsored loans.¹ Since 1964, the program has provided \$15 billion to students in financial need (Department of Finance, 1998). Full-time students in a program lasting at least 12 weeks may qualify for a loan based on the costs of their program and on the financial resources available to them. For the 1997-98 academic year, CSLP funding met 60% of a student's assessed need for the period of enrolment (up to a maximum of \$165 per week). Part-time students may also qualify for a loan if their family income is below a specified threshold (based on the number of people in the family). The CSLP can be supplemented with provincial student loan programs.

The 1998 federal budget revised the Canada Student Loans Program. The government pays interest on the loan while the borrower is in school. Interest accrues after graduation, but the borrower is not required to make payments for 6 months; after this grace period, he or she must pay off the loan, usually in less than 10 years. For those facing financial difficulties, the federal government may pay the interest for a maximum of 30 months after the borrower has left school (extended from 18 months); also during this time, the borrower need not make payments on the principal.

The 1998 budget also introduced a 17% federal tax credit on the interest portion of payments for both federal and provincial student loans. It raised income thresholds for interest relief, and will make partial interest relief available in 1999 to those with higher incomes. For borrowers who have used all of their interest relief, the government may extend the loan repayment schedule to 15 years and interest relief to 54 months. For those who still have financial difficulty at least 5 years after their studies, the government may reduce the principal if payments exceed a certain proportion of income (Department of Finance, 1998). (The NGS interviewed 1995 graduates before the introduction of many of these relief measures.)

and credit cards) increased. Overall, 46% of college graduates and 50% of those with bachelor's degrees borrowed from a student loan program.

Compared with the class of 1982, graduates in 1995 owed between 130% and 140% more to student loan programs at graduation (after adjusting for inflation). On average, the 1995 graduates owed \$9,600 (college) and \$13,300 (bachelor's) when they graduated. Averages, however, do not tell the whole story. While some borrowers (7% of college and 22% of bachelor's) owed more than \$20,000 at graduation, others (21% and 14%, respectively) owed less than \$5,000. With these widely varying amounts, graduates face different pressures to find good jobs and begin repaying their loans.

The age of graduates also appears to influence borrowing patterns. Graduates aged 25 to 29 were more likely than others to borrow and to owe larger amounts. While younger graduates may rely on their parents for financial help, many of those over 30 have a career prior to starting their courses and study part time. With help from parents and income from a steady job, both younger and older graduates in this study relied less on government-sponsored student loans to finance their education (Chart A).

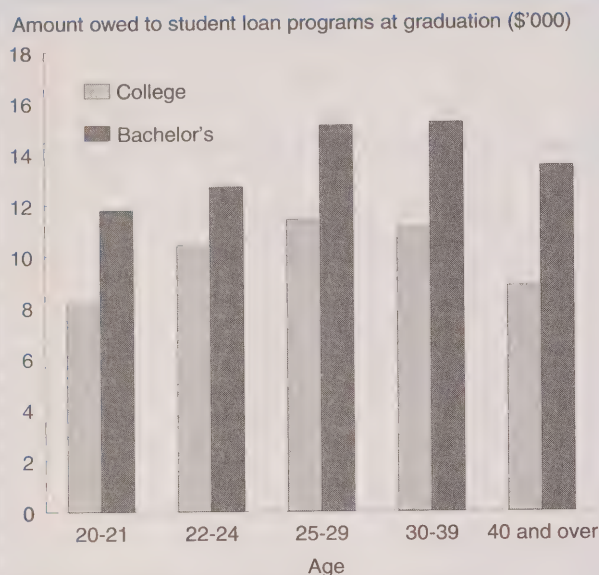
Class of 1995 slower at repaying

Borrowers are not required to begin repaying their student loans if they continue studying full time after they graduate. Although not necessarily full time, 31% of college and 45% of university graduates were back in

Student loans in the United States

As in Canada, tuition in the United States has increased much more quickly than family income. Between academic years 1980-81 and 1995-96, tuition fees increased by more than 90%, while family income grew by 9% after inflation (The College Board, 1997). In 1995-96, some 60% of graduates in American bachelor's degree programs had borrowed an average \$18,200 (Canadian dollars)² to finance their education. Among associate degree recipients, similar to Canadian community college graduates, 42% had borrowed an average \$6,900 (Canadian dollars) (U.S. General Accounting Office, 1998).

The U.S. Department of Education's PLUS program provided another source of financing; about 10% of parents of 1996 graduates made use of this program. And a study conducted by the University of Michigan indicated that 21% of borrowers tapping home equity lines of credit used some or all of those loans to finance education; only 7% of borrowers with traditional equity loans did so.

Chart A: Young graduates borrowed the least.

Source: National Graduates Survey, 1997

school after their "first" graduation in 1995. So it is not surprising that by June 1997, some 17% of those who had borrowed for college and 23% of those who had done so for university were not making loan payments. In fact, 11% of college graduates and 16% of bachelor's degree holders owed more than they had at graduation.

Other borrowers don't make payments because they are having financial difficulty. On average, 1995 graduates had repaid less in the two years after graduation than had the class of 1990. While 1995 college graduates had repaid just 19% of their loans, their 1990 counterparts had paid off 35% by 1992 (Table 1). Similarly, those with bachelor's degrees had repaid only 17%, compared with 27%. This means that 1995 graduates will probably repay their loans over a longer period than previous borrowers, for several reasons: pursuit of further studies; inability to find a well-paying job; or a wish to take advantage of lower interest rates, which may encourage some people to pay off their loans more slowly.

Are repayments being made?

Although the debt burden of graduates has increased substantially, about 41% of college and 32% of university 1995 graduates had already paid off their loans

or expected to do so before 2001. Another 40% did not know when their loans would be repaid.

During the two years following graduation, one-sixth of 1995 borrowers said they were having difficulty making payments on their student loans.⁶ Only about one-third of those reporting problems received assistance from other sources, such as the Interest Relief Program.⁷ Some 4% of all 1995 borrowers had defaulted by 1997.

Not surprisingly, the two most significant factors affecting loan repayment were the size of the loan and the level of graduates' income. For example, only 8% of university graduates with a loan of less than \$2,000 had difficulty repaying, compared with 34% of those who owed \$30,000 or more. Similarly, among those with incomes below \$30,000 nearly three times as many had trouble repaying their loan as graduates with incomes over \$50,000 (21% versus 8%).

Stability of employment also significantly affected repayment of student loans. While 19% of graduates employed for less than 6 months in June 1997 had

Table 1: Status of loan repayment for graduates of college and university (all levels)

	Year of graduation			
	1982	1986	1990	1995
Average owed at graduation				
	1995 \$			
College	4,000	6,200	6,700	9,600
Bachelor's	5,800	9,000	9,700	13,300
First professional	9,500	13,700	14,600	21,100
Master's	6,700	8,500	10,000	13,700
Doctorate	5,400	6,900	9,500	12,900
Average owed two years later				
	1997 \$			
College	..	3,400	4,400	7,700
Bachelor's	..	5,400	7,100	11,000
First professional	..	8,000	10,800	16,600
Master's	..	4,600	6,700	10,000
Doctorate	..	2,700	4,700	7,800
Average loan reduction				
	%			
College	..	45	35	19
Bachelor's	..	40	27	17
First professional	..	42	26	21
Master's	..	45	33	27
Doctorate	..	60	50	39

Source: National Graduates Survey

difficulty, only 12% of those who had held their job for two or three years had similar problems. However, bachelor's degree holders who had job tenure beyond three years were as apt to have difficulty repaying their loans as borrowers with less than 6 months in the same job (19%). As might be expected, unemployed borrowers had more problems honouring their commitments than those working full time (one-quarter versus one-sixth).

Among graduates with bachelor's degrees, women were more likely than men to say they had had difficulty repaying their loans: 20%, compared with 15%. Women borrowed, on average, about \$1,000 more than their male counterparts and their 1996 incomes were approximately \$3,700 lower. In contrast, men and women with college certificates or diplomas faced similar challenges.

Difficulty in repaying loans varied from province to province. In Newfoundland, 24% of university graduates reported having trouble paying off their loans. Those from Quebec, where undergraduate tuition fees were lowest, were least likely to report difficulties (14%). Quebec graduates also had one of the lowest debt levels at graduation (\$11,600), while those in Saskatchewan had the highest (\$16,400).

Field of study makes a difference

Tuition fees and living expenses can vary significantly by field of study. Specialized programs often have higher tuition fees. As fewer universities or colleges offer these programs, some students must move from home to attend. In contrast, general programs are offered at most colleges and uni-

versities, giving many students the option of living with their parents to reduce expenses.

At the college level, students in mathematics and physical sciences (primarily computer science) were most likely to borrow (54%) and had the highest average debt at graduation (\$13,300) (Table 2).

Two years later, their debt was still above the college average, but had dropped by 33%. This represented the largest percentage reduction in student loans among college graduates, a reflection of the low unemployment rates and higher earnings typical of college computer science graduates.

Table 2. Characteristics of student debt by field of study

	1995 graduates owing money	Average owed		Average reduction	Students reporting difficulty repaying
		At grad- uation	In June 1997		
	%	\$			%
College certificate or diploma	46	9,600	7,800	19	17
Educational, recreational and counselling services	39	9,200	8,600	7	12
Fine and applied arts	50	11,400	9,300	18	21
Humanities and related fields	50	10,400	8,400	19	30
Social sciences and related fields	53	9,300	8,000	14	18
Commerce, management and business administration	42	8,400	6,700	20	18
Agricultural and biological sciences/technologies	42	9,000	7,100	21	11
Engineering and applied sciences, technologies and trades	46	9,600	7,400	22	16
Health professions, sciences and technologies	53	10,300	7,800	24	14
Mathematics and physical sciences	54	13,300	8,900	33	--
Interdisciplinary/no specialization/unknown	38	11,200	14,100	-26	18
Bachelor's degree	49	13,300	10,900	18	17
Educational, recreational and counselling services	55	13,400	9,800	27	20
Fine and applied arts	47	13,700	11,800	14	27
Humanities and related fields	46	13,100	12,100	8	17
Social sciences and related fields	48	14,100	13,300	6	21
Commerce, management and business administration	45	11,900	8,600	27	11
Agricultural and biological sciences/technologies	50	13,300	12,700	4	20
Engineering and applied sciences	55	12,800	8,600	33	10
Health professions, sciences and technologies	48	14,600	9,800	33	14
Mathematics and physical sciences	55	12,700	9,100	28	11
Interdisciplinary/no specialization/unknown	45	11,600	10,700	8	12

Source: National Graduates Survey, 1997

Only about 3% of 1995 college graduates were enrolled in studies in humanities.⁸ Nearly 30% of these graduates reported difficulty repaying their student loans (Chart B), which averaged \$10,400 at graduation. Their earnings in 1996 were among the lowest and their unemployment rate in June 1997 was 16%.

College graduates in interdisciplinary studies or who had no specialization actually owed more in 1997 than they had when they graduated in 1995, in part because nearly two-thirds had gone on to further studies and had probably borrowed more for those studies.

At the bachelor's level, engineering and applied science graduates had low unemployment rates in June 1997 (6%) and higher earnings in 1996 than graduates from other fields. They also had better-than-average

employment prospects. As a result, only 10% of engineering graduates had difficulty repaying their loans, the lowest percentage of all. By June 1997, they had repaid about one-third of their student loans even though nearly 15% had gone on to study at the master's level. Although engineering students had higher tuition and laboratory fees and most had to purchase or maintain computers, their debts at graduation were about 4% below average for bachelor's graduates. This may reflect their participation in co-operative programs that enable many to finance their studies along the way.

In contrast, fine and applied arts bachelor's graduates had the most difficulty repaying their student loans (27%) and had paid off only 14% of the loans within two years of graduation.

Summary

The class of 1995 borrowed more from student loan programs than any group of graduates in the previous 15 years. Although many students repaid their loans within 2 years of graduation, others had problems. Because their earnings could not keep pace with the debt, one in 20 borrowers had defaulted within 2 years.

Perspectives

Notes

1 Quebec and the Northwest Territories operate their own student assistance plans and receive alternative payments from the federal government.

2 This calculation is based on the May 1996 exchange rate (C\$1.369 = US\$1).

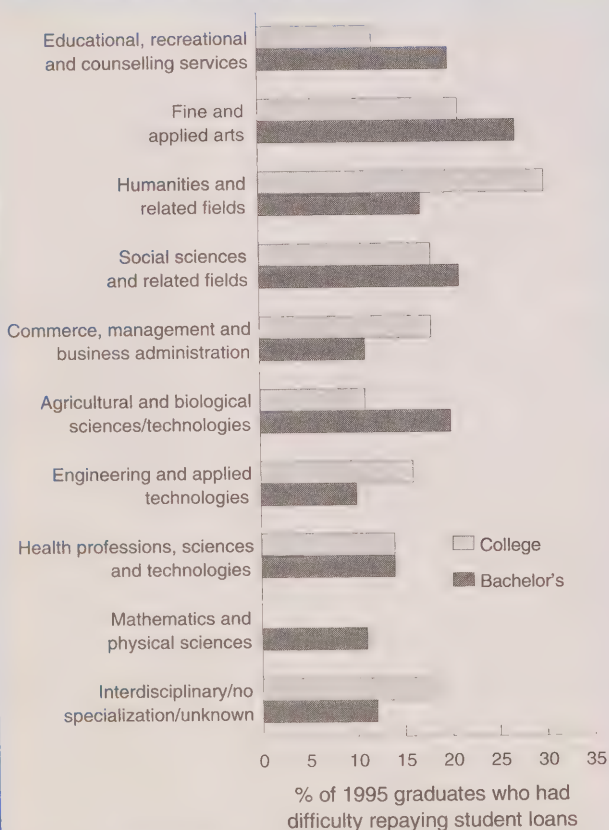
3 Unless otherwise stated, university graduates refer to those with bachelor's degrees.

4 Scholarships, fellowships, awards and prizes were more often mentioned by first professional (14%), master's (23%) and doctoral (59%) graduates.

5 Since parents' income is not available in the National Graduates Survey, fathers' education is used as a proxy for students' socioeconomic well-being. Of college graduates whose fathers had not completed high school, 48% borrowed from student loan programs. In contrast, 40% of those whose fathers had a bachelor's degree borrowed from a student loan program. A similar pattern was evident for university graduates (56% and 44%, respectively).

6 Students' responses reflect their *perceptions* of difficulty.

Chart B: Bachelor's engineering graduates had the least difficulty repaying their student loans.



Source: National Graduates Survey, 1997

7 This federal program suspends principal payments and assumes graduates' interest payments when their income falls below a specified threshold.

8 Some 63% of college humanities graduates majored in mass media studies, while another 17% studied library or records science.

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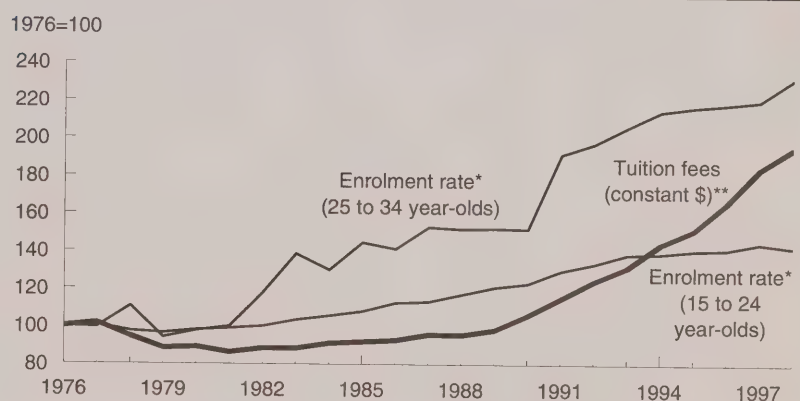
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Speaking of students...

The accompanying chart shows tuition fees (in constant dollars) and student enrolment rates, indexed to 1976. Despite the steady rise in tuition fees, enrolment rates for both younger (15 to 24 years) and older (25 to 34 years) full-time students have continued to increase. This has been especially true in the 1990s, as youths have chosen to remain in or go back to school because of reduced employment prospects.



Sources: Labour Force Survey; Education Division; Prices Division

* Proportion of age group enrolled as full-time students during the October Labour Force Survey reference week.

** Average fee for general arts degree.

Perspectives

Private security and public policing

Karen Swol

In recent years, both the number of police officers in Canada and the crime rate have been declining. However, the rates for many workplace or white-collar crimes, such as computer crimes, employee theft, and fraud, are increasing. Public police do not always have the resources to handle these "internal" crimes. In some cases, for example, a fraud of at least \$100,000 must be committed for public police to give it priority (Gerden, 1998). With cutbacks to police budgets occurring just as the public's demand for security seems to be growing, the use of private security has been increasing.

Police officers differ considerably from private security personnel in the work they perform, the basic job requirements and training. Both police and private security play a role in society; however, the line between the two security professions is becoming less clearly defined. Police officers who walk the beat in front of commercial properties may now meet up with private security guards hired by shopkeepers to patrol their storefronts as a deterrent to theft and break and enters. In general,

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this type of private security does not require a police presence nor does there exist a potential for danger. Some police forces have formed partnerships with private security in areas such as secure storage of property and evidence, monitoring of alarm centres, guarding of prisoners while in lock-up or in transit, and video- and audio-taping of suspects being interviewed (Stewart, 1997).

This article compares public and private security (see *Data source and definitions*) and includes information on roles and responsibilities and minimum requirements and training.

Roles and responsibilities

Police

Legislation in each province stipulates the duties of a police officer. A typical example is the *Police Services Act* in Ontario, which outlines the duties as follows:

- preserving the peace;
- preventing crimes and other offences;
- assisting victims of crime;
- apprehending criminals;
- laying charges, prosecuting and participating in prosecutions;
- executing warrants;
- performing the lawful duties assigned by the chief of police; and
- completing the required training.

Police officers, whose salaries are paid by tax dollars, are responsible for serving and protecting the public. Their jurisdiction includes areas in the public domain. Police officers have powers of search, arrest and detention and they are held accountable for their actions. In 1996, policing costs totalled \$5.9 billion or \$195 per Canadian (Swol, 1997).

Private security

Private security differs from the public police in a number of ways. Private security personnel work for clients who pay for the protection of person and/or property. The interests of the client determine their duties. Private security personnel have the same powers of arrest, search and detention as an ordinary citizen (as stipulated in section 494 of the *Criminal Code of Canada*).

The two main types of private security are security guards and private investigators. The most recognizable difference between the two groups is that security guards must wear uniforms, whereas private investigators must not. Security guards may be authorized to carry firearms under special circumstances (for example, armoured car personnel), while private investigators are not permitted to do so.

Data source and definitions

Every five years, the census collects data on every person in Canada based on place of residence. Two types of questionnaire are used: a short form and a long form. The long form goes to one in every five households in Canada, while the remaining households receive the short form.

With the exception of salaries, the data are for the "employed labour force," which includes "persons 15 years of age and over, excluding institutional residents, who, during the week (Sunday to Saturday) prior to Census Day: a) did any work at all for pay or in self-employment; or b) were absent from their job or business for the entire week because of vacation, illness, a labour dispute at their place of work or other reasons." The data on salaries cover persons aged 15 years and older with employment income who worked full year full time in 1995.

In this article private security personnel include private investigators and security guards as defined in Statistics Canada's *Standard Occupational Classification*. Excluded are persons who work in the manufacturing of alarm systems or other security devices or equipment, as well as those who work for companies that monitor alarm systems.

In the 1991 *Standard Occupational Classification*, **private investigators** (G625 Other Protective Services) include occupations such as alarm investigator, corporate security officer, private detective, private investigator, retail loss prevention officer, detective agency supervisor, fire prevention officer (except firefighter), floorwalker and store detective (retail). This group conducts investigations to locate missing persons, obtains information for use in civil and criminal litigation matters or other purposes, investigates unlawful acts of employees or patrons of the business, prevents shoplifting, and so on.

Security guards (G631 Security Guards and Related Occupations) include occupations such as armoured car

driver, bodyguard, plant guard, school-crossing guard, automatic teller machine guard, bouncer, commissionaire (security), night watchman/woman, patrolman/woman (guard), hand-luggage inspector, airport security guard and vault custodian. Security guards control access to buildings, patrol assigned areas, enforce security regulations of a business, perform security checks of passengers and luggage at airports, drive and guard armoured trucks containing money or valuables, or supervise and co-ordinate activities of other security guards.

Visible minorities "are persons (other than Aboriginal persons), who are non-Caucasian in race or non-white in colour... (Chinese, South Asian, Black, Arab/West Asian, Filipino, South East Asian, Latin American, Japanese and Korean)."

Aboriginal persons refer to those "who reported identifying with at least one Aboriginal Group, that is, North American Indian, Métis or Inuit (Eskimo) and/or those who reported being a Treaty Indian or a Registered Indian as defined by the *Indian Act* of Canada and/or who were members of an Indian Band or First Nation."

Counts for private investigators and security guards shown in this report may differ from those using other data sources. For example, provincial or territorial registrars have data showing the number of licences issued to private investigators and security guards. These data were not used because of methodological limitations such as a discrepancy between the licence count and the person count, the lack of requirement for a licence if the person works "in house," and the possession of licences by persons not necessarily employed in the private security field.

Counts for police officers in this study differ from counts in the *Police Administration Annual Survey* (Statistics Canada), because of the inclusion here of part-time police officers.

The work of security guards is more visible, as they often control public passageways, perform security checks, patrol inside and outside corporate buildings and secure the transportation of valuables. Private investigators, on the other hand, are involved in more covert operations and behind-the-scenes action and, therefore, have less contact with the public. Their work varies from making telephone calls in the office, to following and recording the movements of indi-

viduals, detecting theft and fraud, gathering evidence, and making court appearances.

Minimum requirements and training

Police

The minimum requirements for most police departments are age 18 or older, Grade 12 education or equivalency,¹ Canadian citizenship, a valid driver's licence with good

standing, medical and physical fitness, fluency in English or French, good vision and hearing, and no criminal record. Although the minimum education requirement is Grade 12 for most police forces, preference is usually given to those with college or university degrees.

The selection process also generally involves a series of tests that may include aptitude, written communication, medical, psychological, physical and driving tests.

Once the candidates meet all the requirements, they may be hired as recruits/cadets and must go to a police college or other police training facility for a period of three to six months. After successful completion of the academic training, they may be sworn in as constables and probably go through a further six months to a year of field training with the police service.

Private security

Private investigators and security guards working for an agency must be licensed by the province or territory. Each jurisdiction, with the exception of the Northwest Territories, has its own Act dealing with private investigators and security guards, which stipulates regulations and licensing requirements. The basic requirements for a licence are age 18 or older (may vary slightly in some provinces), no criminal record for the past five years, and Canadian citizenship. British Columbia and Newfoundland also have minimum training require-

ments. Licences must be renewed annually and can be revoked if the person does not comply with the requirements of the Act or with the regulations for a licence.

No licence is required if the private investigator or security guard is hired "in house," which means that he or she is an employee of, for example, an insurance company, court house, law firm, or store. The only exception to this is the use of private security personnel by permanent commercial casinos (such as in Montréal, Hull, Niagara Falls or Windsor). They must be licensed by a provincial gaming control commission (Gerden, 1998).

Training for private investigators and security guards is generally the responsibility of the employer. Some colleges in Canada do offer courses in law enforcement and security, and a few schools also offer specialized training for private investigators. Topics covered at these schools may include surveil-

lance, background investigations, domestic and child custody investigations, evidence gathering and presentation, lie detection, court appearance and testimony, missing persons, undercover operations and report writing.

Compared with police officers, private security in Canada is characterized by the following: lower wages, minimum or no recruitment standards, higher percentage of part-time work, higher turnover rate, lower levels of education, and minimum or no training (Marin, 1997).

How many work in these occupations?

In both 1991 and 1996, private security personnel outnumbered police officers: in the latter year, 82,010 to 59,090. Some 12,230 were private investigators and 69,780, security guards (Table 1). Private security personnel increased by 1% between 1991 and 1996, compared with a 4% drop in

Table 1: Police officers, private investigators and security guards

	Police officers			Private investigators			Security guards		
	1991	1996	Change	1991	1996	Change	1991	1996	Change
			%			%			%
Canada	61,280	59,090	-3.6	8,215	12,230	48.9	72,880	69,780	-4.3
Newfoundland	995	880	-11.6	85	70	-17.6	1,250	1,220	-2.4
Prince Edward Island	205	210	2.4	*	*	...	315	305	-3.2
Nova Scotia	1,675	1,595	-4.8	235	150	-36.2	2,970	2,705	-8.9
New Brunswick	1,475	1,480	0.3	145	140	-3.4	1,940	2,145	10.6
Quebec	16,415	16,315	-0.6	2,055	4,715	129.4	22,310	16,445	-26.3
Ontario	23,590	21,975	-6.8	3,335	4,455	33.6	27,920	28,845	3.3
Manitoba	2,275	2,540	11.6	340	250	-26.5	2,405	2,540	5.6
Saskatchewan	2,500	2,055	-17.8	220	205	-6.8	1,725	1,695	-1.7
Alberta	4,955	4,840	-2.3	775	825	6.5	5,305	5,990	12.9
British Columbia	6,830	6,810	-0.3	1,010	1,390	37.6	6,540	7,665	17.2
Yukon	105	120	14.3	-	15	...	70	70	-
Northwest Territories	255	280	9.8	*	*	...	135	155	14.8

Source: Census of Canada, 1991 and 1996

Note: Figures may not add to totals because of random rounding to 5.

* Too few cases to be meaningful.

police officers. Security guards declined 4% from 1991, whereas private investigators increased 49% over the same period.

Private security personnel tend to have higher proportions of part-time workers than police officers. In 1996, 19% of private investigators and 33% of security guards worked part time, compared with only 7% of police officers. Unemployment rates also differed. Police officers had an unemployment rate of 2%, compared with 5% for private investigators and 9% for security guards.

Some police services in Canada also have security guards as part of their civilian personnel. Between 1986 and 1996, the number of security guards employed by police services increased 86%, from 398 to 745.

Saskatchewan showed the largest drop in the number of police

officers (18%) since 1991, followed by Newfoundland (12%), Ontario (7%) and Nova Scotia (5%). Increases were noted in Yukon (14%), Manitoba (12%) and the Northwest Territories (10%).

In the case of private investigators, Quebec had the largest increase (129%), followed by British Columbia (38%) and Ontario (34%). Three provinces had notable decreases: Nova Scotia (36%), Manitoba (27%) and Newfoundland (18%).

The number of security guards also showed large increases in some jurisdictions since 1991: British Columbia (17%), the Northwest Territories (15%), Alberta (13%), and New Brunswick (11%). Despite these increases, the large drop in the number of security guards in Quebec (26%) led to the overall decrease at the national level. This drop, along with the large increase in the number of pri-

vate investigators in that province (129%), may have been due in part to some labour disputes among security guards during this period, as well as to the changing nature of security requirements, such as investigations for fraud, electronic surveillance, and alarm systems.

Among the provinces, Manitoba and Quebec had the most police officers per capita in 1996 (Table 2). Because Quebec uses more "temporary" police officers than other jurisdictions, that province's number per 100,000 population was 12% higher than the national average. If temporary officers are excluded, Quebec's rate was only 5% above the average.

Conversely, both Manitoba and Quebec showed a slightly lower-than-average rate of security guards per capita. Security guards were most prevalent in Nova Scotia and New Brunswick, and least prevalent in Saskatchewan.

Table 2: Police officers, private investigators and security guards, showing rates per 100,000

	Population	Total		Police officers		Private investigators		Security guards	
		Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000	Number	Rate per 100,000
Canada	29,959,458	141,100	471	59,090	197	12,230	41	69,780	233
Newfoundland	569,563	2,170	381	880	155	70	12	1,220	214
Prince Edward Island	136,634	515	377	210	154	*	...	305	223
Nova Scotia	941,598	4,450	473	1,595	169	150	16	2,705	287
New Brunswick	760,780	3,765	495	1,480	195	140	18	2,145	282
Quebec	7,396,727	37,475	507	16,315	221	4,715	64	16,445	222
Ontario	11,271,834	55,275	490	21,975	195	4,455	40	28,845	256
Manitoba	1,137,297	5,330	469	2,540	223	250	22	2,540	223
Saskatchewan	1,017,452	3,955	389	2,055	202	205	20	1,695	167
Alberta	2,785,755	11,655	418	4,840	174	825	30	5,990	215
British Columbia	3,843,647	15,865	413	6,810	177	1,390	36	7,665	199
Yukon	31,400	205	653	120	382	15	48	70	223
Northwest Territories	66,771	435	651	280	419	*	...	155	232

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

* Too few cases to be meaningful.

Table 3: Police officers, private investigators and security guards by sex

	Police officers				Private investigators				Security guards			
	Both sexes	Men	Women	% women	Both sexes	Men	Women	% women	Both sexes	Men	Women	% women
Canada	59,090	51,600	7,490	13	12,230	9,680	2,550	21	69,780	55,715	14,065	20
Newfoundland	880	800	80	9	70	65	10	14	1,220	1,080	140	11
Prince Edward Island	210	195	15	7	*	*	-	-	305	265	35	11
Nova Scotia	1,595	1,450	145	9	150	120	30	20	2,705	2,195	505	19
New Brunswick	1,480	1,385	95	6	140	110	30	21	2,145	1,810	330	15
Quebec	16,315	14,720	1,595	10	4,715	4,065	645	14	16,445	12,540	3,905	24
Ontario	21,975	18,685	3,285	15	4,455	3,370	1,085	24	28,845	22,630	6,215	22
Manitoba	2,540	2,160	375	15	250	220	25	10	2,540	2,210	325	13
Saskatchewan	2,055	1,760	295	14	205	145	55	27	1,695	1,440	260	15
Alberta	4,840	4,325	520	11	825	590	230	28	5,990	4,910	1,080	18
British Columbia	6,810	5,780	1,035	15	1,390	965	430	31	7,665	6,450	1,220	16
Yukon	120	100	20	17	15	15	-	-	70	55	15	21
Northwest Territories	280	240	35	13	*	*	-	-	155	125	30	19

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

* Too few cases to be meaningful.

Quebec had the most private investigators per 100,000 population, while the Atlantic provinces showed generally lower rates. Overall, Quebec, New Brunswick and Ontario had the highest rates per capita for public and private security combined, while Prince Edward Island, Newfoundland and Saskatchewan had the lowest.

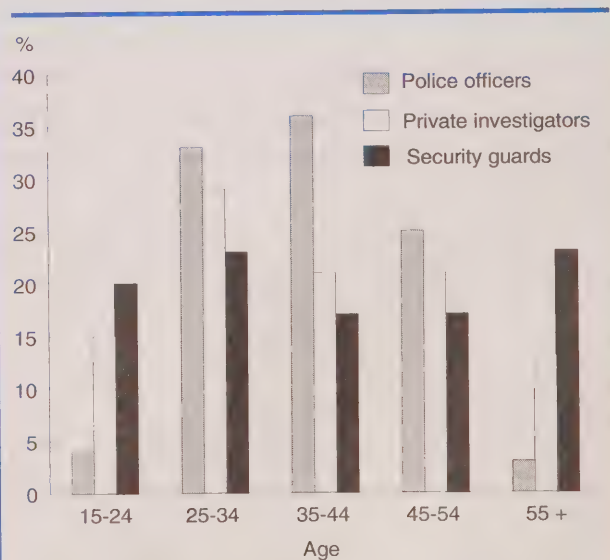
More women in private security

Women had a higher representation in private security than in public policing in 1996 (Table 3). They made up 21% of private investigators and 20% of security guards, compared with 13% of police officers. However, the proportion of female police officers has been increasing steadily since the mid-1970s, when it was less than 1%.

Ontario generally had the highest representation of women in both policing and private security, while the Atlantic provinces tended to have lower representations.

Age profile

A much higher percentage of private security personnel were under 25 and over 54 (Chart A). Police officers were more likely to retire by the time they reached 55, which explains the low percentages in that

Chart A: Private security personnel are more evenly distributed by age.

Source: Census of Canada, 1996

age group. By contrast, private security work does not have an upper age limit and the work can accommodate older persons. Furthermore, a number of retired police officers and military personnel have taken

Table 4: Police officers, private investigators and security guards by age and sex

	All ages		15 to 24		25 to 34		35 to 44		45 to 54		55 and over	
		%		%		%		%		%		%
Police officers	59,090	100	2,335	4	19,215	33	21,065	36	14,805	25	1,665	3
Men	51,600	100	1,520	3	14,935	29	19,220	37	14,320	28	1,615	3
Women	7,495	100	825	11	4,280	57	1,845	25	490	7	55	1
Private investigators	12,230	100	1,850	15	3,600	29	2,620	21	2,550	21	1,615	13
Men	9,680	100	1,410	15	2,735	28	1,900	20	2,160	22	1,475	15
Women	2,550	100	435	17	865	34	720	28	395	15	140	5
Security guards	69,780	100	13,625	20	16,165	23	11,645	17	12,135	17	16,205	23
Men	55,715	100	11,160	20	13,035	23	8,345	15	9,050	16	14,120	25
Women	14,065	100	2,465	18	3,130	22	3,300	23	3,085	22	2,085	15

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

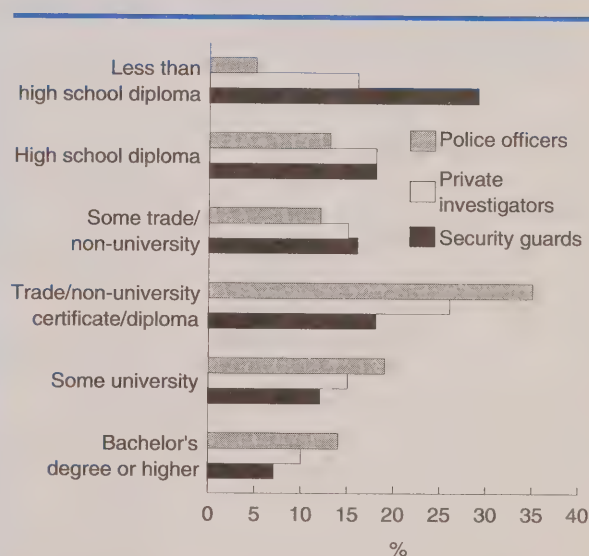
up work in private security. The large number of persons under 25 working in private security may be explained by the lower level of education and training in that field.

Female police officers tend to be younger than male officers (Table 4). In 1996, over two-thirds (68%) of women were below 35, compared with only 32% of men – not surprising, given the recent efforts to recruit more women. Among private investigators and security guards, the most noticeable difference was among those 55 and older. For both occupations, the percentage of men was much higher than that of women.

Police officers have higher education levels

Because police officers must meet minimum education requirements, their higher education levels are not unexpected. In 1996, 81% of police officers had more than a high school diploma, compared with 66% of private investigators and 53% of security guards (Chart B). Furthermore, 14% of police officers had university degrees, compared with 10% of private investigators and 7% of security guards.

Education levels differ by sex. In 1996, among police officers, women generally had higher levels of education and were nearly twice as likely as men to be university graduates (Table 5). This could be related to the increasing numbers of women who have come into policing in recent years, coinciding roughly with

Chart B: Police officers have higher education levels.

Source: Census of Canada, 1996

the emphasis on hiring applicants with university degrees. However, even after controlling for age differences, women still had higher levels of education. Among private investigators, too, women tended to have higher levels of education than their male counterparts. The reverse was true for security guards.

Table 5: Highest level of education for police officers, private investigators and security guards

	Police officers			Private investigators			Security guards		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
Total	100	100	100	100	100	100	100	100	100
Less than high school diploma	5	6	4	16	17	14	29	28	32
High school diploma	13	14	8	18	18	17	18	17	19
Some trade or non-university	12	13	8	15	15	13	16	17	14
Trade or non-university with certificate/diploma	35	35	33	26	26	27	18	18	20
Some university	19	19	22	15	15	17	12	13	9
University with bachelor's degree or higher	14	13	25	10	10	12	7	8	6

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

Visible minorities have higher representation in private security

While some programs have been established to encourage visible minorities to apply for police officer positions, police services have experienced difficulty in recruiting such candidates. Visible minorities accounted for 3% of police officers, 6% of private investigators and 11% of security guards in 1996 (Table 6). Not including Aboriginal persons, they made up 10% of the employed labour force.

Aboriginal persons well represented in both domains

Aboriginal persons made up 1.7% of all employed in 1996 (Table 6). The percentage of Aboriginal police officers (3.0%) and security guards (2.9%) exceeded the national average, while that of

Table 6: Minority group representation in security occupations

	Total		Visible minorities		Aboriginal persons	
		%		%		%
Population 15 and over	22,628,925	100	2,419,140	10.7	518,585	2.3
Men	11,022,455	100	1,166,790	10.6	247,385	2.2
Women	11,606,470	100	1,252,350	10.8	271,210	2.3
All occupations	13,318,740	100	1,320,865	9.9	229,810	1.7
Men	7,191,125	100	709,995	9.9	118,700	1.7
Women	6,127,615	100	610,880	10.0	111,110	1.8
Police officers	59,090	100	1,725	2.9	1,780	3.0
Men	51,600	100	1,435	2.8	1,430	2.8
Women	7,490	100	295	3.9	355	4.7
Private investigators	12,230	100	765	6.3	160	1.3
Men	9,680	100	665	6.9	115	1.2
Women	2,550	100	95	3.7	50	2.0
Security guards	69,780	100	7,815	11.2	2,010	2.9
Men	55,715	100	6,805	12.2	1,645	3.0
Women	14,065	100	1,010	7.2	365	2.6

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

Aboriginal private investigators (1.3%) fell below. Part of the reason for the high representation among police officers is the recent trend toward self-administered First Nations Police Services (Aboriginal police officers policing in their own communities).

Police have significantly higher earnings

Average employment income for police officers in 1995 was considerably higher than for private security officers (Table 7). Police officers averaged \$53,795, nearly \$20,000 more than private investigators and more than double the

average income of security guards. Several factors contribute to the differences. Not only are the education and training requirements for the private security field lower, but competition in the marketplace forces agencies to contain costs.

Police officers in the Territories reported the highest average earnings in the country, followed by British Columbia and Ontario. Salaries in the Far North were most likely related to the high cost of living in the area. Prince Edward Island and Nova Scotia had the lowest average employment incomes for police officers.

Private investigators in Saskatchewan reported the highest average earnings, followed by Alberta. Nova Scotia and Quebec had relatively low averages. Security guards earned the most in Ontario and Quebec, the least in Manitoba.

For all three groups, wage gaps existed between the sexes. Women police officers made, on average, 19% less than men, probably because a greater proportion were young and thus had less seniority and experience. In 1996, over 90% of female officers were at the constable level, the lowest paid rank (Swol, 1997). Private security showed a smaller wage gap between men and women. Female private investigators earned, on average, 13% less than their male counterparts. Among security guards, women earned 11% less.

Summary

Private security personnel differ from police officers in a number of ways. Private security personnel work for clients who pay them for services rendered, while police officers are responsible for serving and protecting the public.

Table 7: Average annual employment income for police officers, private investigators and security guards, 1995

	All occupations			Police officers		
	Both sexes	Men	Women	Both sexes	Men	Women
	\$					
Canada	37,556	42,488	30,130	53,795	54,946	44,734
Newfoundland	34,142	40,064	26,353	50,743	51,067	47,144
Prince Edward Island	30,039	33,741	25,129	47,112	47,573	*
Nova Scotia	32,824	37,398	26,093	48,810	49,410	41,657
New Brunswick	32,865	37,811	25,461	51,927	52,295	44,463
Quebec	35,021	39,340	28,449	53,806	54,549	45,688
Ontario	40,281	45,477	32,645	54,098	55,470	45,462
Manitoba	32,564	36,630	26,260	50,580	52,585	38,004
Saskatchewan	31,402	35,289	25,227	53,272	54,575	41,829
Alberta	37,097	42,725	28,091	53,531	54,794	41,787
British Columbia	39,414	44,784	31,218	55,971	57,520	45,805
Yukon	42,786	47,050	37,715	62,761	63,869	*
Northwest Territories	47,108	52,144	40,037	65,321	67,421	*
	\$					
	Private investigators			Security guards		
Canada	34,193	35,047	30,382	25,223	25,573	22,829
Newfoundland	*	*	*	25,104	26,358	15,004
Prince Edward Island	*	*	-	21,014	21,144	*
Nova Scotia	27,048	26,790	*	21,994	22,165	20,541
New Brunswick	36,478	37,390	*	22,322	22,318	22,369
Quebec	30,227	30,955	24,967	26,092	26,461	23,009
Ontario	36,516	37,459	32,823	26,403	26,807	23,976
Manitoba	31,823	31,848	*	20,714	20,742	20,408
Saskatchewan	38,709	44,084	29,053	22,944	23,329	20,260
Alberta	37,902	41,324	26,957	22,134	22,523	20,270
British Columbia	35,690	36,463	33,718	25,563	25,795	23,888
Yukon	*	*	-	*	*	-
Northwest Territories	*	*	-	30,963	31,364	*

Source: Census of Canada, 1996

Note: Figures may not add to totals because of random rounding to 5.

* Too few cases to be meaningful.

Minimum requirements and training are considerably less for private security than for police officers.

Private security personnel outnumbered police officers in both 1991 and 1996. Their numbers increased slightly over the period, while police officer counts dropped. Women had greater representation in private security than in policing. Visible minorities, too, had higher percentages among private security personnel, while Aboriginal persons were well represented in both domains.

Education levels were higher among police officers, which was not unexpected, given the mini-

mum educational requirements for the job. Employment income was considerably higher for police officers than for private security personnel.

Perspectives

Note

1 Equivalency refers to successful results on a test administered by an accredited educational institution to represent the equivalent of Grade 12 education.

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What's new?

Recent reports and studies

■ JUST RELEASED

■ *Articles from Services Indicators*

Entertainment services: a growing consumer market

Canadians spent \$5.8 billion on entertainment services in 1996, up 49.4% in real terms from 1986. Entertainment services accounted for 1.1% of the average household's budget, up from 0.7%. On average, households spent \$533 on entertainment services in 1996, up from \$439, thanks to increased spending on cablevision in particular.

Spending on cablevision reached almost \$2.8 billion in 1996, an 80% increase from a decade earlier. As a result, cablevision accounted for 48% of the entertainment services consumer market, up from about 40% in 1986.

Rentals of videotapes and videodiscs accounted for another 17% of the market. Spending increased 54% to just over \$1 billion, primarily because the proportion of households renting videotapes increased from 42% to 61%. Households spent an average \$92 on videotape rentals, compared with \$74 a decade earlier.

Spending on movies accounted for only 11% of the entertainment services market in 1996, down from 17%. Households spent \$627 million in 1996, a 4% decline in real terms from 1986. Participating households' average expenditure was \$103, down from \$142.

Between 1986 and 1996, the consumer market for live sports events declined 4% to \$401 million, partly because the proportion of households buying such tickets fell from 27% to 22%.

For more information, or to enquire about concepts, methods or data quality, contact Louise Earl, Labour and Household Surveys Analysis Division at (613) 951-2880.

Employment and remuneration in the services industries since 1984

In recent years, Canada's economy has become increasingly service-based. The shift is particularly evident on a sector-by-sector basis. This article offers an overview of changes in employment and remuneration in the service sector from 1984 to 1997. Changes in full- and part-time employment, self-employment and average wages and salaries are noted. Particular attention is paid to finance, insurance and real estate services; business services; food and beverage services; communication services; amusement and recreation services; and traveller accommodation services.

For more information about these articles (which appeared in the third-quarter 1998 issue of *Services Indicators*, Catalogue no. 63-016-XPB, \$35/\$116 or 63-016-XIB, \$26/\$87), contact Don Little, Services Division at (613) 951-6739 or littndon@statcan.ca.

■ *Organisation for Economic Co-operation and Development*

Education at a Glance: OECD Indicators 1998, published in November 1998, presents an updated range of internationally comparable OECD education indicators.

The 36 indicators in this volume represent the consensus of professional thinking on how to measure the current state of education internationally. The indicators are organized thematically and accompanied by charts and tables.

The indicators for Canada were calculated from data provided by Statistics Canada as part of its involvement with the Canadian Education Statistics Council, which includes the provincial

For further information, or to enquire about

J. Baldwin and G. Gellatly

Unit 1: *Learning Statistics Canada's 1006 Survey*
$$4. \quad Tl \rightarrow (H:l, l \vdash l \vdash \vdash) \quad \bigcirc \vdash (H:l, l \vdash l \vdash \vdash)$$

M. Drolet and R. Morissette

This study explores changes in job quality over

Mountain towns, such as wages and fringe

This paper also found that workers in large

Finally, the paper found no significant effects

To obtain a copy of *Bount Canadian Evidence*

For further information, or to enquire about concepts, methods or data quality, contact Marie Drolet or René Morissette, Business and Labour Market Analysis Division at (613) 951-5691 or (613) 951-3608, respectively.

To order studies in the Research Paper Series, contact your nearest Statistics Canada Regional Reference Centre, or write to Publications Review Committee, Analytical Studies Branch, 24th floor, R.H. Coats Building, Ottawa, Ontario K1A 0T6. Or phone (613) 951-1804; fax (613) 951-5403.

■ WHAT'S NEW WITH THE LFS?

■ *Latest on the labour force*

The Winter 1999 issue of *Labour Force Update* (Catalogue no. 71-005-XPB, \$29), titled "An overview of the 1998 labour market," is now available. Selected observations follow. This issue of *Perspectives* highlights more findings in "Key labour and income facts."

- Employment growth in 1998 was stronger than in any other year this decade. As a result, by the end of the year, more than 60% of the population was working – the first time since 1991 that employment has been that high.
- Employment among women aged 25 to 54 rose the most, continuing their long-term upward trend. Youths were the second largest source of job growth. After almost a decade of general decline, jobs for youths aged 15 to 24 rose strongly, with both teenagers and those in their twenties sharing the gains.
- Workers aged 55 and older also experienced strong job growth. As older people entered or stayed in the labour market to take new jobs, their participation rate increased, following almost two decades of steady decline.
- Employment growth among men aged 25 to 54 was slightly weaker than in 1997. Because they are more likely to work full time, their modest increase contributed to a

slowdown in full-time job growth. Still, over two-thirds of the overall increase in employment was in full-time work.

- Employment rose across the country, with the exception of Prince Edward Island. In fact, employment in most provinces grew faster than the population, causing employment rates to rise. In percentage terms, employment growth was fastest in New Brunswick, Ontario and Alberta.

For additional information, contact Jeannine Usalcas at (613) 951-4720; fax (613) 951-2869; e-mail: usaljea@statcan.ca.

■ *LFS in review: CD-ROM*

This CD-ROM provides thousands of cross-classified series of Labour Force Survey data from 1976 to 1998. The package includes an easy-to-use data browser, a tutorial, the Labour Force Survey questionnaire, a comprehensive guide to the survey, a coefficient-of-variation calculator and more. Added to this year's CD are data based on a new industry and occupation classification system, going back to January 1987. Changes have also been made to the public/private sector variable.

The 1998 *Labour Force Historical Review* on CD-ROM (Catalogue no. 71F0004XCB, \$195) is now available. For additional information, contact Marc Lévesque at (613) 951-2793; fax (613) 951-2869; e-mail: levemar@statcan.ca.

■ *Overview of labour force statistics*

Historical Labour Force Statistics, 1998 (Catalogue no. 71-201-XPB, \$114) is a print reference tool that provides the seasonally adjusted employment and unemployment statistics featured in the press each month. This annual publication presents data on general labour market characteristics for Canada, the provinces and metropolitan areas, with data going back 10 to 20 years. Each year, the series are updated according to the latest seasonal models and factors.

For additional information, contact Marc Lévesque at (613) 951-2793; fax (613) 951-2869; e-mail: levemar@statcan.ca.

■ *Changes to data on industry, occupation and public/private sector*

With the release of January 1999 data, the Labour Force Survey (LFS) has changed to new classification systems for both industry and occupation data. All records from 1987 to 1998 include codes for both old and new classifications. The survey has also harmonized its definition of the public and private sectors with that of the System of National Accounts. Analysis using the new classification systems appears in the spring issue of *Labour Force Update* (Catalogue no. 71-005-XPB).

Industry

Canada, the United States and Mexico recently agreed upon a new industrial classification system, the North American Industrial Classification System (NAICS). With the North American Free Trade Agreement, a common classification was needed to facilitate comparisons of economic trends by industrial activity. The LFS is the first Statistics Canada program to release data under this new classification. Over the next few years, all major business and household surveys will make the switch, as will the 2001 Census.

The new classification differs from the Standard Industrial Classification system (SIC80) established in 1980 (and adopted by the LFS in 1984) in a number of important respects. The new classification groups industries in terms of common inputs and processes, rather than outputs. It also accommodates industries that have emerged since the 1970s. Finally, service industries, which account for about three-quarters of employment, and a large share of output, play a more prominent role. A detailed account of NAICS can be found on the Statistics Canada Internet site at www.statcan.ca/english/Subjects/Standard/index.htm.

The new classification has six digits of detail. However, the LFS will code data only to the fourth digit, similar to the previous detail, reflecting constraints faced by the survey: First, industry codes are assigned according to information provided by household respondents on the main activity of the business they work for or own. Second, job description information

must be coded quickly and within budget. Finally, the survey sample is not sufficient for estimates at the full level of detail.

At the highest level of aggregation, NAICS has 20 sectors, compared with 18 divisions in the SIC80. Even this level is too detailed to provide reliable seasonally adjusted estimates for all provinces. Just as was done with the SIC80, the LFS has grouped some of the sectors for monthly, seasonally adjusted publication. While the titles of some groupings have not changed, the detailed industries they represent have. Consequently, direct comparisons cannot be made.

Occupation

In the late 1980s, Statistics Canada and Human Resources Development Canada (HRDC) worked to modernize the occupational classification system. The two agreed to code occupations in a way that allowed HRDC to aggregate into meaningful skill groups (known as NOC91), and Statistics Canada, into meaningful groups based on similar activities (SOC91).

Until now, the census has been the only source of data based on the SOC91. The 1991 Census coded data to both the SOC80 and SOC91, and the 1996 Census coded exclusively to SOC91. Other household surveys will follow the LFS within the next couple of years. Data will be coded to four digits. But most users prefer higher levels of aggregation, which are less affected by response, coding and sampling errors.

The SOC91 is fundamentally different from the SOC80. Comparisons between the two are meaningless at any level of aggregation. The LFS will provide historical series back to 1987 based on SOC91. As with NAICS, these series are available on CANSIM.

Sector

In January 1999, the definition of public and private sectors was changed. The inclusion of hospitals and universities in the public sector is now based on "funding" rather than "ownership." This change increases the number of public employees in health and education industries, as all hospitals and universities are now included in this sector. The data have been recoded back to 1976; therefore, the time series is unbroken.

For more information about the effect of these changes on LFS products and services, contact Marc Lévesque at (613) 951-2793 or levemar@statcan.ca.

■ WHAT'S NEW IN SAAD?

■ *After-tax LIMs*

The Small Area and Administrative Data Division is offering for the first time, as part of their standard statistical tables on families, information on Low Income Measures (LIMs) calculated on after-tax income.

LIMs are a measure of relatively worse-off families. Before-tax LIMs became the subject of standard table 17 of the family databank with 1994 data. Like all information from that databank, the data are available in aggregate form for geographical levels as large as the entire nation, or as small as individual letter carrier walks in urban areas.

These after-tax LIMs, part of the Family Data series (service number 13C0016), as well as additional information, are available from Client Services, Small Area and Administrative Data Division, (613) 951-9720; fax (613) 951-4745; e-mail: saadinfo@statcan.ca.

■ *After-tax income*

Starting with 1996 information on income, data will be made available on income after tax. This type of information has been requested by many

users as it reflects the income available to Canadians for expenditure on consumer goods and services.

Income information is aggregated to various levels of geography, from urban postal walks to provincial totals.

For additional information on after-tax incomes, contact Client Services, Small Area and Administrative Data Division at (613) 951-9720; fax (613) 951-4745; e-mail: saadinfo@statcan.ca.

■ *Longitudinal data 1982 to 1996*

Data for 1996 have been added to the Longitudinal Administrative Databank (LAD), a 10% sample of Canadian taxfilers. The LAD includes a wide variety of income and demographic variables such as employment income, self-employment income, registered retirement savings plan contributions, alimony, age, sex, and census family composition. The large sample (2.2 million persons in 1996) ensures reliable estimates for Canada, the provinces, census metropolitan areas, and some subprovincial regions, based on aggregations of postal codes.

Custom tabulations including 1996 data can now be provided. For further information, contact Client Services, Small Area and Administrative Data Division at (613) 951-9720; fax (613) 951-4745; e-mail: saadinfo@statcan.ca.

Perspectives

Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Fiona Long at (613) 951-4628; longfio@statcan.ca or Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual
Contact: Richard Vincent
(613) 951-4070

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey

Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual
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1 888 297-7355

Survey of Consumer Finances

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Household Facilities and Equipment Survey

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Family Expenditure Survey

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General Social Survey

Education, work and retirement

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly
Contact: Thomas Dufour
(613) 951-2088

Special surveys

Survey of Work Arrangements

Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

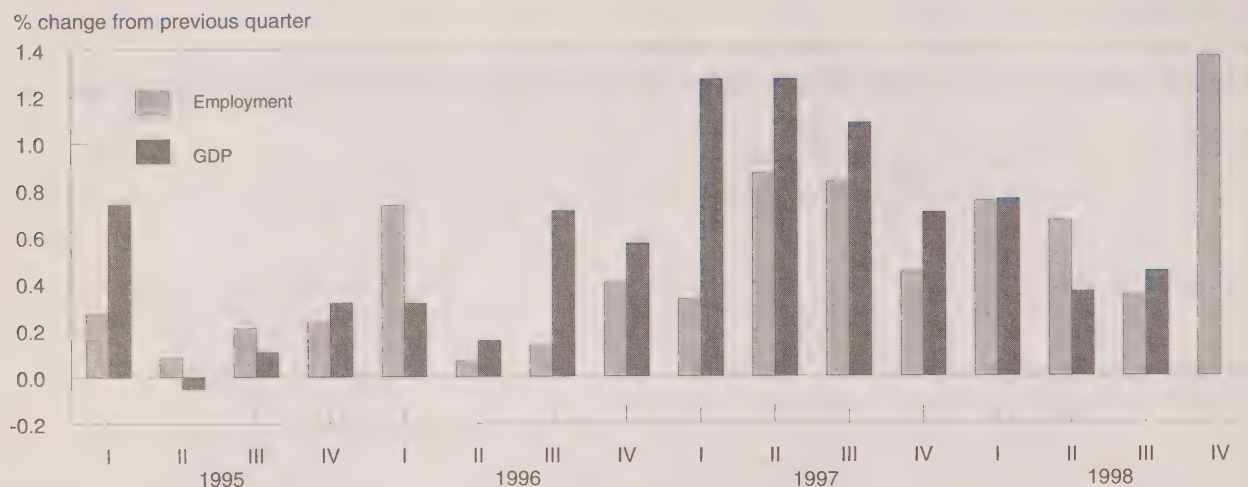
Adult Education and Training Survey

Frequency: Occasional
Contact: Steve Arrowsmith
(613) 951-0566

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

Even though gross domestic product (GDP) growth was slower in the first three quarters of 1998, employment growth continued.



Sources: System of National Accounts; Labour Force Survey (seasonally adjusted)

In 1998, while Quebec and Ontario recovered from the January ice storm, ongoing economic troubles in much of Asia contributed to plummeting prices for oil and other commodities. Beginning in late spring, the value of the Canadian dollar dropped sharply in relation to the American dollar, which many attributed to falling prices for natural resources. This led to a full percentage-point increase in the Bank of Canada rate during the summer. In the months following, the bank rate fell three-quarters of a percentage point to end the year at 5.25%.

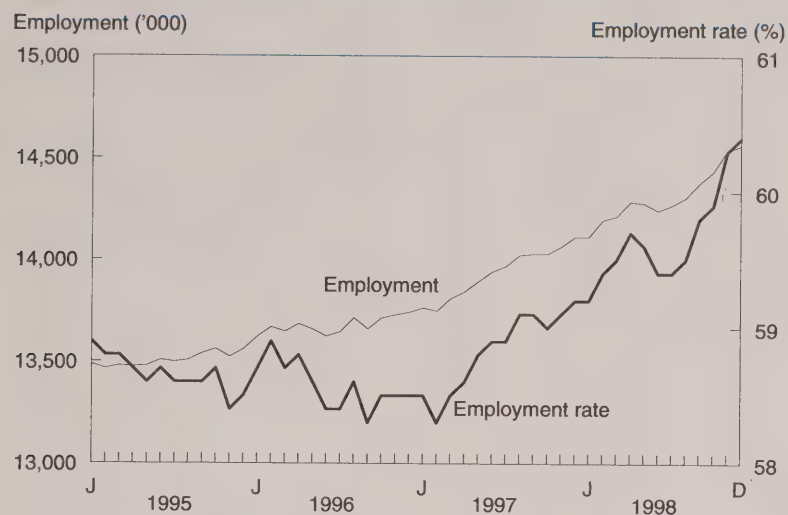
In Ontario, summer layoffs occurred in the automotive sector as a strike in the United States affected production at General Motors plants and many suppliers. In the end, at least 15,000 people were temporarily laid off across the province in June and July.

In the third quarter, business investment on new buildings and machinery and equipment, which had fuelled the expansion the year before, slipped as business sales volumes eased and prices fell. As well, fundraising on stock and bond markets dried up following the summer upheaval in global markets. With personal spending steady, exports were left to pick up the pace, reflecting the low dollar and steady demand in the United States and Europe.

These events and other factors led to slower economic growth in the first three quarters of 1998. During that time, gross domestic product (GDP) advanced 1.6% from the end of 1997, compared with 3.7% growth over the same period in 1997. In the third quarter of 1998, employment was 1.8% higher than it had been at the end of 1997, similar to the 2.0% growth of the same period the year before.

Charts and text for this issue's "Key labour and income facts" were adapted from *Labour Force Update, Winter 1999*, Catalogue no. 71-005-XPB. For more information, contact Geoff Bowlby, Labour Force Survey, Statistics Canada at (613) 951-3325; fax (613) 951-2869; bowlgeo@statcan.ca.

In 1998, employment growth was strong enough to keep the employment rate on an upward trend.

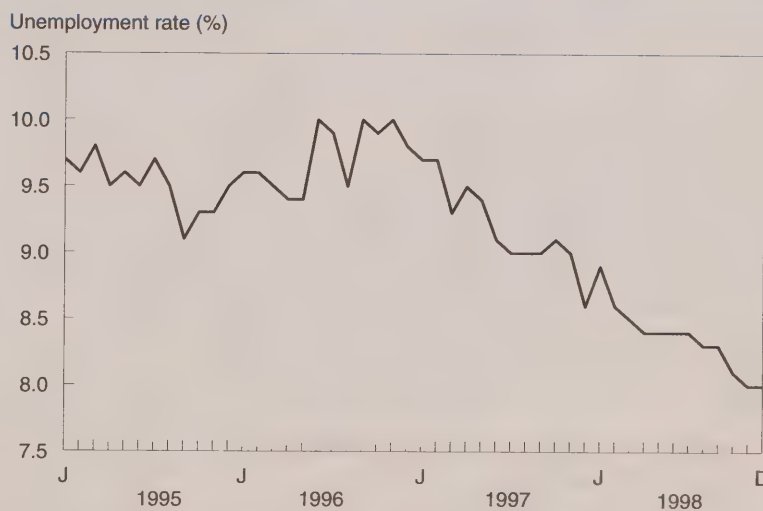


Source: Labour Force Survey (seasonally adjusted)

In the final three months of 1998, the pace of job growth quickened, leaving employment up 449,000 (3.2%) since December 1997. As a result, by the end of the year more than 60% of the population was working, for the first time since 1991. This growth exceeded expectations and built on that of the previous year, when the number of working Canadians increased by 372,000 (2.7%).

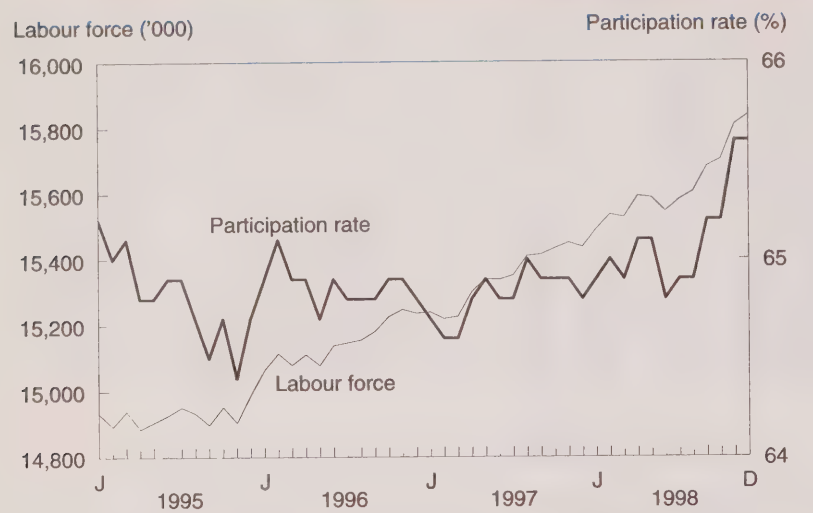
The unemployment rate dipped to 8.0% at the end of 1998, the lowest since 1990.

During the mid-1990s, the unemployment rate dropped as people stopped looking for a job because they had retired, gone back to school or simply given up out of discouragement. For the last couple of years, however, unemployment has fallen because of improved job opportunities. The number of unemployed Canadians fell by 49,000 (3.7%) in 1998, the second straight year of decline. As a result, the unemployment rate ended the year at 8.0%, the lowest since 1990.



Source: Labour Force Survey (seasonally adjusted)

The labour force participation rate ended the year 0.8 percentage points higher than in December 1997, the largest rise in over 10 years.



Source: Labour Force Survey (seasonally adjusted)

While the unemployment rate has dropped, the rate of labour force participation has increased, jumping from 64.8% at the end of 1997 to 65.6% in December 1998, the largest year-over-year increase in labour market activity in over 10 years.

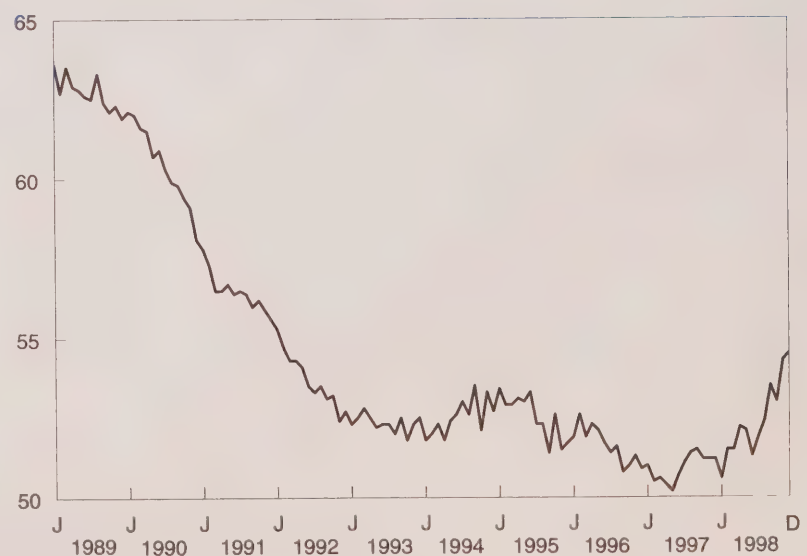
Youth employment revived in 1998.

After almost a decade of general decline, jobs for youths 15 to 24 finally rebounded.

Both teenagers and youths in their twenties shared in the job growth. At the start of the year, 64.9% of youths aged 20 to 24 had a job; by the end of the year, some 68.4% were employed. Teenagers, who were more likely to be attending school, saw their employment rate rise from 37.5% to 40.4%.

A number of possible causes contributed to this resurgence. As the labour market tightened, employers may have begun hiring youths. Improvements in retail and wholesale trade employment, an area of the economy that relies heavily on young staff, probably helped also.

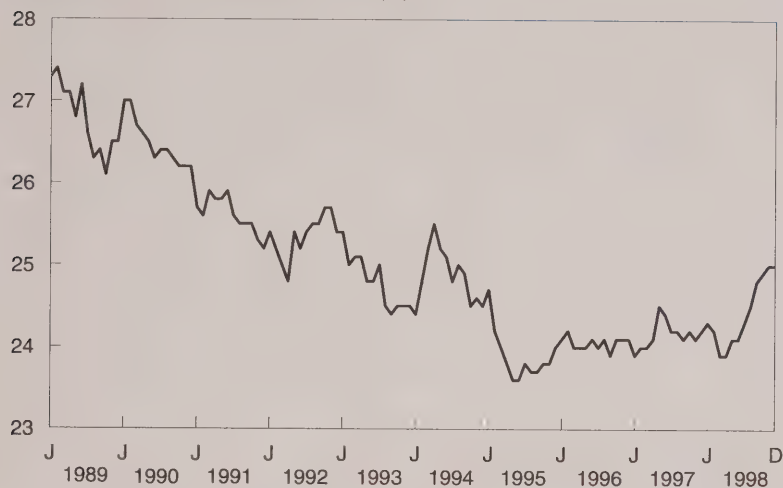
Employment rate for 15 to 24 year-olds (%)



Source: Labour Force Survey (seasonally adjusted)

After falling for nearly two decades, the participation rate for older people has risen in recent years, especially in 1998.

Participation rate of people 55 and over (%)



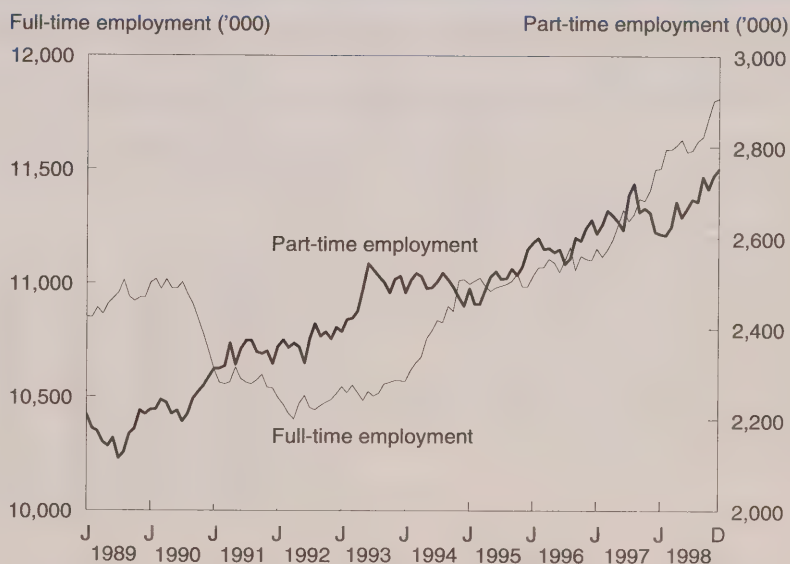
Source: Labour Force Survey (seasonally adjusted)

For the fourth year in a row, employment increased among people aged 55 and over. By the end of 1998, older workers had increased their ranks by 73,000 (5.2%), two-thirds of whom were women. As older people entered or stayed in the labour market to take new jobs, their rate of labour force participation increased, following almost two decades of steady decline. In 1998, the participation rate for older women continued its long-term upward trend. Older men's participation rate also increased, for only the second time in 20 years.

In 1998, both full- and part-time employment increased.

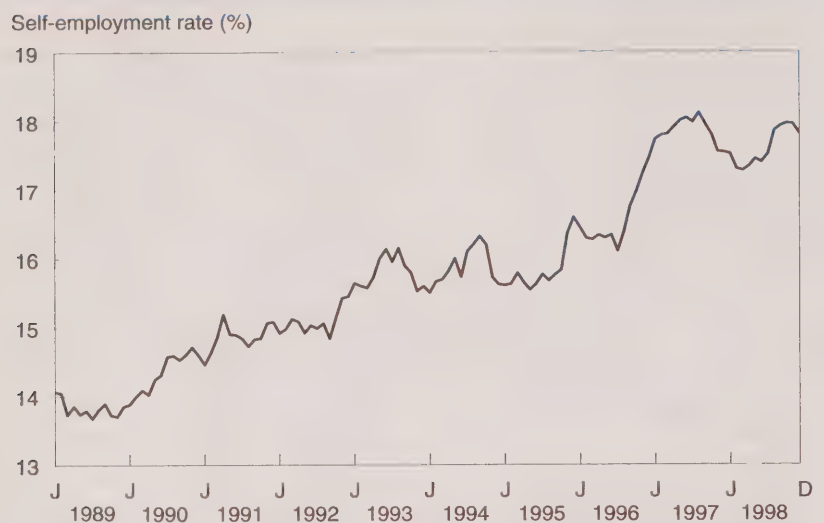
Some 311,000 (2.7%) more people worked full time in 1998, over two-thirds of the overall increase in employment. The growth is proportionally smaller than that of 1997, when 398,000 more full-time jobs were created.

Following a drop the year before, part-time employment rose 138,000 (5.3%) in 1998. But while a relatively large proportion of youths and adult women worked part time, most did so by choice. Only about 23% of young part-timers would have preferred full-time work, while 68% were also attending school. About 30% of adult women working part time were involuntary part-timers, while another 20% were also taking care of children. In contrast, 44% of adult men working part time wanted to have full-time jobs.



Source: Labour Force Survey (seasonally adjusted)

The self-employment rate resumed its upward trend part-way through 1998.



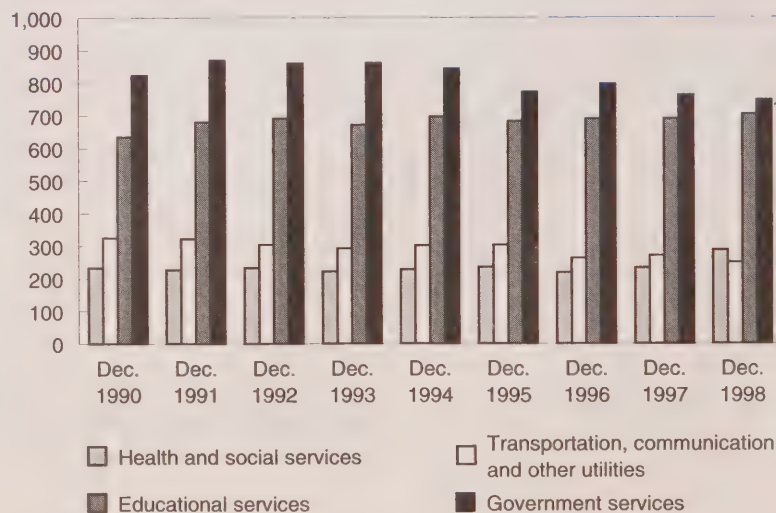
Source: Labour Force Survey (seasonally adjusted)

Working for oneself has become more and more popular, or necessary, in the 1990s. So far this decade, 55% of the increase in employment has come from self-employment. With such rapid growth, the percentage of workers who work for themselves reached 17.8% by the end of 1998, from about 14% at the start of the 1990s. Self-employment growth was especially strong in late 1996 and early 1997. Although flat at the start of 1998, it resumed a strong upward trend part-way through the year. As a consequence, self-employment was up 118,000 (4.8%) by the end of the year.

Gains in health and social services and in educational services spurred growth in public sector employment in 1998.

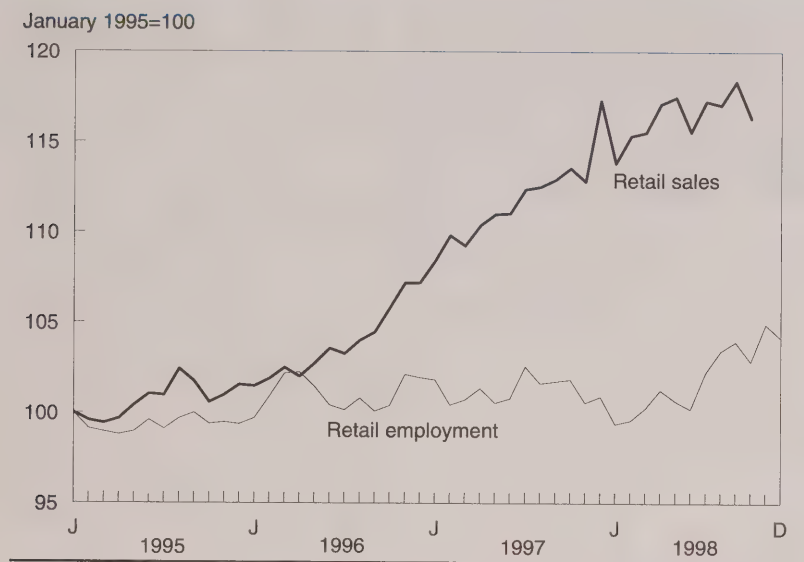
In response to a surplus in government revenue in the second quarter of 1997, the number of workers in the public sector expanded in 1998 for the first time in four years. While government services continued to shed jobs, health and social services and educational services led the public sector increase of 35,000 (1.7%).

Employment in the public sector ('000)



Source: Labour Force Survey

After increases in sales during 1996 and 1997, growth in retail trade jobs finally materialized in 1998.

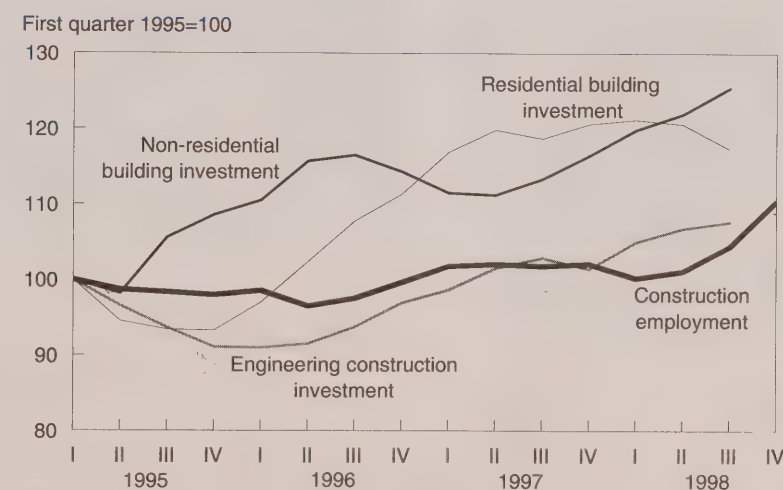


Sources: Labour Force Survey; Distributive Trades Division (seasonally adjusted)

With an increase of 80,000 (3.3%), another industry that experienced strong job growth in 1998 was trade, the source of much improvement for youths. About 70% of the increase came from the retail sector. Although retail sales proved to be relatively flat in 1998, hiring may have been based on growth from the year before.

Investment in non-residential building and engineering construction may have led to the 1998 surge in construction jobs.

For the first time in many years, employment increased in the construction industry. Employment rose 71,000 (9.4%) in 1998, the largest annual increase this decade. Even though residential building investment fell somewhat in the first three quarters of 1998, investment in both non-residential building and engineering construction (road and infrastructure) was up. Despite employment growth, the number of construction workers has yet to recover fully from the last recession.



Sources: Labour Force Survey; System of National Accounts (seasonally adjusted)

Manufacturing employment reflected slower growth in output in 1998.

January 1989=100



Sources: Labour Force Survey; System of National Accounts (seasonally adjusted)

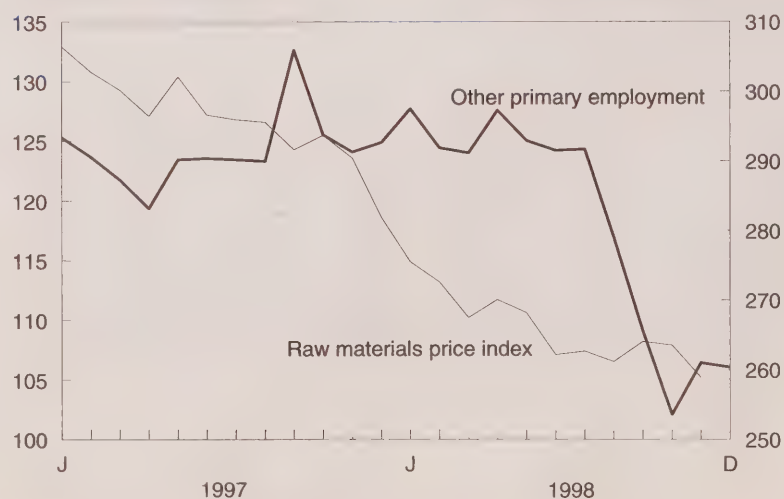
Through early 1998, employment in manufacturing continued to grow at the previous year's fast pace. However, in only three months manufacturing jobs plummeted 110,000 as a summer General Motors strike in the United States temporarily closed auto plants in Ontario and Quebec, and as employment fell in paper manufacturing; printing and publishing; and chemical production. With a recovery in the last quarter of the year, manufacturing ended the year up only 15,000 (0.7%) from its position in 1997.

A drop in commodity prices appears to have had a delayed effect on employment in other primary industries.

The "Asian flu" appears to have taken hold on jobs in other primary industries. As commodity prices plummeted in response to reduced demand from Asia, oil, mining and logging employers were forced to cut back. By the end of 1998, the number of other primary workers had dropped by 32,000 (11%), over three-quarters of it in mining, quarrying and oil wells.

Raw materials prices, 1992=100

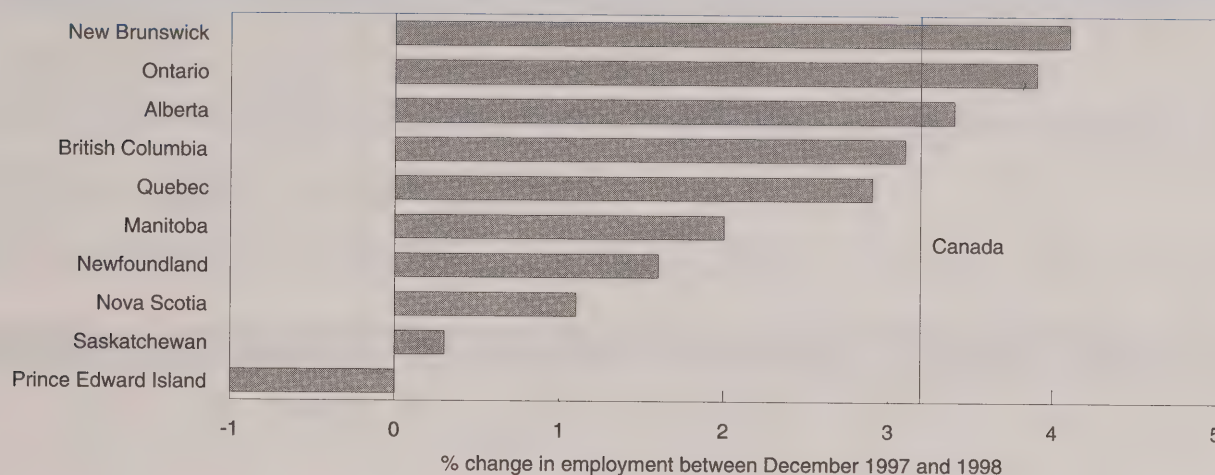
Other primary employment* ('000)



Sources: Labour Force Survey; Prices Division

* Seasonally adjusted

In percentage terms, employment growth was strongest in New Brunswick, Ontario and Alberta.



Source: Labour Force Survey (seasonally adjusted)

Because employment growth in most provinces was faster than that of the population, employment rates increased in all but Prince Edward Island.

Strength in the service sector caused employment in Ontario to rise 213,000 (3.9%) and the unemployment rate to drop almost a full percentage point to 6.9%, the lowest since September 1990.

Employment in Alberta continued its long-term increase, rising 51,000 (3.4%) in 1998. As oil prices hit new lows by the end of the year, employment in other primary industries dropped sharply. However, this and other losses were more than offset by increases in transportation, communication and other utilities and in community services. Even with the continued improvement in employment, an increase in the

number of people looking for work kept the unemployment rate in Alberta almost unchanged at 5.7%, still the lowest in the country.

Business and personal services provided most of the growth in New Brunswick, where employment grew by 13,000 (4.1%). As a result, the unemployment rate fell 0.8 percentage points, ending the year at 11.6%.

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■ RRSPs and the self-employed

An analysis of RRSP participation and contribution rates of the self-employed in the 1990s.

■ Involuntary part-time workers

A discussion of the conceptual, measurement and profile differences of pre- and post-1997 Labour Force Survey data on involuntary part-timers.

■ Literacy in the workplace

An examination of the fit or mismatch between job requirements and workers' literacy skills, profiling patterns of literacy use and under-use in the Canadian labour market.

■ Female/male earnings ratios

A comparison of female/male earnings ratios from various data sources, principally the Labour Force Survey and the Survey of Consumer Finances.

■ Employment after childbirth

An examination of the timing of women's return to paid work following childbirth, and the factors related to their decision.

■ The transition years: Measuring labour market success of young adults

A comparison of the relative labour market success of today's young adults (aged 25 to 29) with that of young adults 20 years ago.

■ Earnings of physicians and lawyers

An examination of the earnings of physicians and lawyers, with a profile of the characteristics of these two traditionally higher earning professions.

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Jobs: 1978-1998
- 59 In the works

■ Articles

9 Earnings mobility of Canadians, 1982-1992

Ross Finnie

Over the last decade, a renewed interest in the distribution of earnings has taken hold in Canada, spurred largely by concerns about increasing inequality during a period of relatively flat earnings. This analysis looks at the earnings mobility of Canadians from 1982 to 1992 using Statistics Canada's Longitudinal Administrative Databank. (Adapted from a report published by Human Resources Development Canada.)

16 Working past age 65

Mark Walsh

Increasingly, men past the traditional retirement age (65) are continuing to work. This article examines whether changes in the workplace have accompanied this trend. The variables examined include self-employment, part-time work and flexible work arrangements.

21 Saving for retirement: RRSPs and RPPs

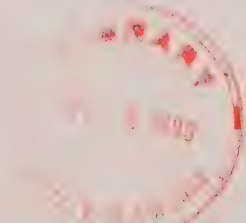
Ernest B. Akyeampong

The two principal tax-assisted vehicles for retirement income planning in Canada are registered retirement savings plans (RRSPs) and employer-sponsored registered pension plans (RPPs). Using 1996 tax data, this study compares various groups of workers and their retirement saving patterns.

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28 Hours polarization at the end of the 1990s

Karen Hall

Hours polarization, or the move away from the standard work week to either a shorter or longer work week, is a continuing trend in Canada. This study looks at how hours polarization has grown in the 1990s. (Based on a paper presented at Statistics Canada's Economic Conference 1999.)

38 Literacy in the workplace

Harvey Krahn and Graham S. Lowe

Previous studies of the job skills gap have focused on the problem of workers with literacy deficits. Yet, in terms of the costs to individuals, firms and the national economy, literacy surplus (or underemployment) is equally important. This article examines the "fit" or "mismatch" between job requirements and workers' literacy skills, profiling patterns of literacy use and under-use in the labour market. (Adapted from a report published by Statistics Canada and Human Resources Development Canada.)

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Forum

From the Managing Editor

For the record

In the previous issue of *Perspectives*, we charted the relative durations of unemployment for selected age-sex groups. We neglected to mention that, because the data came from the Labour Force Survey (LFS), they referred to incomplete spells of unemployment; that is, spells as of the LFS reference week. Some may indeed have ended in that week, but most probably continued.

By combining LFS data with information from the Employment Insurance beneficiaries files of Human Resources Development Canada, one can estimate the length of completed spells of unemployment. The Business and Labour Market Analysis Division (BLMAD) of Statistics Canada has done extensive

work in this area and published several studies on the subject. Interested readers can find a complete list of BLMAD's research documents on Statistics Canada's web site (www.statcan.ca/english/Vlib/Research/analytical.htm).

Since we were interested only in relative durations, the relationships shown in the chart should not differ significantly from those derived using completed spells data.

Henry Pold
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Perspectives

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to: Bruce Rogers, "What's new?" *Perspectives on Labour and Income*, 9th floor, Jean Talon Building, Statistics Canada, Ottawa K1A 0T6. Telephone (613) 951-2883; fax (613) 951-4179; e-mail: rogebru@statcan.ca.

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- ***Do males and females receive the same length of custody?***
- ***What offences are repeat offenders committing?***
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Highlights

In this issue

■ Earnings mobility of Canadians, 1982-1992 ... p. 9

- The 1982-92 period was characterized by both earnings mobility and earnings stability – a classic, “Is the glass half-empty or half-full?” issue.
- Earnings were more stable among those at the top of the distribution and mobility was generally more upward than downward, especially over longer periods and particularly for younger workers. The lower end of the earnings distribution was continually restocked with new entrants.
- Only 28% of those who started in the lowest 20% of the income distribution in 1982 were still there 10 years later. Moreover, of the 72% who had moved out of the bottom quintile, one-fifth had moved to one of the top two.
- Beneath the broad patterns, mobility varied substantially by age and sex. Younger workers tended to be more mobile than older ones, especially in an upward direction, while women were generally less likely to reach the top.
- Upward mobility declined overall from the early 1980s to the early 1990s, although women aged 25 to 54 years were actually more likely than men to move up in the later years, right through the recessionary 1990s. Similarly aged men experienced a slight decline in their rates of relative earnings growth; and both men and women under 25, especially those who began at the lowest earnings levels, saw less upward mobility in the 1990s.

■ Working past age 65 ... p. 16

- The likelihood of men’s continuing to work past age 65 is increasing. In 1986, only 29% of men who were both employed and aged 60 to 64 five years earlier were apt to be still employed. By 1998, the likelihood had increased to 41%.
- The incidence of longer tenure (the proportion of workers with 5 years or more of job tenure) also increased, from 69% in 1989 to 81% in 1998. Similarly, average years of continuous service rose slightly over the period, from 19 to a little over 20.
- The higher probability of older men’s remaining employed was accompanied by an increase in “transition-friendly” work arrangements such as self-employment, flexitime and home-based work.
- Self-employment rose as the cohort group aged – from 26% in 1988 (when the group was aged 55 to 59), to 37% in 1993, and 60% in 1998. Part-time work also increased over the period – from 6% in 1988, to 13% in 1993, and 30% in 1998.
- Flexitime among those aged 60 to 69 more than doubled (from 15% to 35%) between 1991 and 1995, and home-based work also increased (8% to 10%). Increases were noted, too, in short work weeks (one to two days a week) and on-call work.

■ Saving for retirement: RRSPs and RPPs

... p. 21

- Contributions to “normal” RRSPs (registered retirement savings plans) increased dramatically between 1991 and 1996, from \$13.4 billion to \$23.8 billion. Employee contributions to RPPs (registered pension plans), on the other hand, increased little (from \$6.3 billion to \$6.9 billion).
- Of taxfilers eligible to participate in RRSPs, 36% made some contribution in 1996. Employees were more likely to do so than the self-employed: 43% versus 35%.
- Contrary to expectation, the 1996 RRSP participation rate was considerably higher among employees with an RRP than among taxfilers without such coverage: 58% of eligible employees, compared with 34%.
- The average RPP contribution by the 3.1 million employees with contributory registered pension plans was \$1,951. About 1.4 million plan members contributed an average \$1,719 only to RPPs in 1996. The 1.7 million who contributed to both RRSPs and RPPs put an average \$2,135 into their RPPs.
- The average contribution to RRSPs in 1996 was \$3,959 (\$3,168 by employees in contributory RPPs, \$3,992 by employees without RPPs, and \$5,579 by the self-employed), compared with \$3,398 for those with employer-sponsored plans. However, when RPPs are considered, average retirement savings by employees contributing to both plans were similar to those of the self-employed, and higher than those of employees without RPP coverage.
- Surprisingly, relatively low RRSP participation rates were recorded for non-professional self-employed taxfilers with high annual incomes (\$80,000 and over).

■ Hours polarization at the end of the 1990s

... p. 28

- During the last 20 years, hours polarization – or the move to shorter (less than 35 hours) and longer (more than 40 hours) work weeks – has increased steadily.
- Women are far more likely than men to work short hours: in 1998, 50% of women and just 28% of men worked less than 35 hours per week. More men than women, however, worked between 35 and 40 hours (43% versus 39%). And at least twice as many men as women worked 41 hours or more per week.
- Long work weeks are still more common in goods-producing industries, and short work weeks remain more common in service-producing industries.
- In terms of occupation, managers worked the longest hours in 1998, while those in sales and service jobs and attendants, helpers, and other service workers, put in the shortest.

■ Literacy in the workplace

... p. 38

- According to the International Adult Literacy Survey, about 700,000 Canadian workers were in jobs with reading-writing demands that seemed to exceed their prose literacy skills in 1994; close to 2.5 million, however, were in jobs that did not appear to take full advantage of these skills. The proportions for document literacy followed much the same patterns; those for quantitative literacy showed some minor differences.
- The proportion of workers whose skill level matched their job requirements varied. For all three types of literacy, the proportion of workers well-matched to both medium- and high-skills jobs exceeded that of those with low skills in a low-requirement setting. More than one in five workers however, were in jobs that did not make full use of their literacy skills.

- Overall, about three-quarters of Canadian workers enjoyed a reasonable match between literacy skills and job requirements. However, a large proportion fell into low-low and medium-medium requirement/competency categories.
- Among workers whose skills did not mesh with their job requirements, greater proportions experienced a skill surplus (underemployment) than a skill deficit (insufficient skills).

■ What's new?

... p. 45

■ Just released

*Public Sector Employment and Wages and Salaries, 1996
Labour Force Update*

*Annual Estimates of Employment, Earnings and Hours,
1986-1998*

"Room utilization in the traveller accommodation
industry," *Services Indicators*

*Rural and Urban Household Expenditure Patterns for
1996*

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Income after Tax, Distributions by Size in Canada, 1997

Income Distributions by Size in Canada, 1997

Low Income Persons, 1980 to 1997

*To What Extent Are Canadians Exposed to Low Income:
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*A Comparison of the Results of the Survey of Labour and
Income Dynamics (SLID) and the Survey of Consumer
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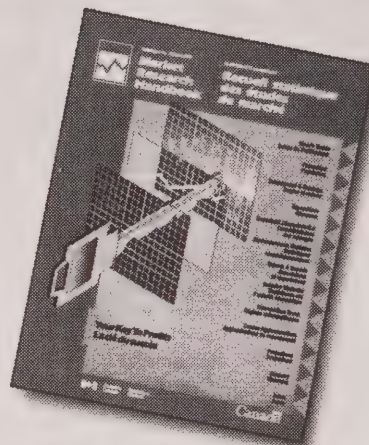
Perspectives

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Earnings mobility of Canadians, 1982-1992

Ross Finnie

Over the last decade, a renewed interest in the distribution of earnings has taken hold in Canada as elsewhere. This interest has been spurred largely by concerns about increasing inequality during a period of relatively flat earnings. Workers in the lower reaches of the distribution have fallen behind in both *relative* and *absolute* terms, a sharp reversal from the previous decades of steady increases across the entire distribution. Furthermore, these reversals appear concentrated among particular groups, such as young people, those with less education, and individuals in import-competing industries.

A good deal is known about the distribution of earnings in any given year and how it has changed over time.¹ However, virtually nothing is known about earnings *mobility* in Canada: how people's earnings change from one year to another, how short-run earnings mobility compares with longer-run changes, how these tendencies vary by age or sex, or whether the patterns have changed in recent years.

If understanding earnings dynamics is so important, why is so little known? The answer lies in the nature of the data available until recently. Virtually all existing studies are based on cross-sectional data (that is, data gathered at a single point in time). The study of earnings dynamics requires longitudinal data, which follow the same people over time. Until the 1980s, Canada had no longitudinal databases of the size, time span or representative nature suitable for a general study of earnings dynamics.

The present study analyzes the earnings mobility of paid workers from 1982 to 1992, using Statistics

Canada's Longitudinal Administrative Databank (LAD) (see *Data source*). The LAD possesses the sample framework, longitudinal structure, earnings information, and size to address the following:

- What is the extent of earnings mobility in Canada?
- How does short-term mobility compare with longer-term mobility?
- Did the structure of earnings mobility change between the early 1980s and the early 1990s?
- How do mobility patterns compare across age-sex groups?

The cross-sectional story: who was doing well in 1983 and 1992?

Not surprisingly, men in the prime age group and, to a lesser degree, younger and older men were more heavily concentrated in the upper earnings quintiles in 1983 and 1992 (two roughly comparable "trough" years) (Chart A). All others – including women of all ages – were more clustered in the lower reaches of the overall distribution of earnings. On the other hand, the first group was somewhat less concentrated in the top two quintiles in the later period, in contrast to prime age women, whose proportion grew from 24.5% to 32.7%, with commensurate decreases in the lower quintiles.⁴

The most dramatic changes, however, were among the youngest workers. In 1983, some 17.8% of entry age men were in the top two quintiles and 61.6% in the bottom two. By 1992, only 9.7% – barely half the earlier level – were in the top two quintiles and a full 72.1% were in the bottom two. Changes for entry age women were in the same direction but not quite as marked (owing in part to their lower starting positions): the percentage in the top two quintiles declined from 6.5% to 4.5%, and that in the bottom two increased from 72.0% to 79.7%. In short, this age group lost considerable ground over the period.

Adapted by Statistics Canada from The Earnings Mobility of Canadians, 1982-1992, published by Human Resources Development Canada (Applied Research Branch), Working Paper W-97-3Ea. Ross Finnie is with the School of Policy Studies at Queen's University and the Business and Labour Market Analysis Division. He can be reached at (613) 951-3962, (613) 533-6000, ext. 74219 or ref@qsilver.queensu.ca.

Data source

The Longitudinal Administrative Databank (LAD) is now a 10% sample of taxfilers created from Revenue Canada tax records by Statistics Canada's Small Area and Administrative Data Division. Individuals are followed over time via their social insurance numbers. The LAD started as a 1% sample running from 1982 through 1992 originally, thus determining the period covered by this analysis.

The LAD's coverage ranges from 91% to 95% of the adult population (official population estimates), with relatively little attrition, meaning that it is representative in both a static and dynamic context – the latter being particularly important for a study of earnings mobility.

The LAD includes information drawn from individuals' tax files:

basic demographic characteristics, income, tax deductions, and tax paid. Most critical to this analysis is the earnings variable; that is, wages and salaries from paid employment.

How the working samples were constructed

The cross-sectional (year-by-year) samples used in the analysis cover the 1982-92 period and include individuals who

- earned at least \$1,000 (1992 constant dollars);
- made no more than \$1,000 in (gross) self-employment income;
- were between 20 and 64 (inclusive); and
- were not enrolled full time in post-secondary school.

Placement in the overall earnings distribution – the backbone of this analysis – is based on all persons in the

relevant cross-sectional samples in each year, with no longitudinal restrictions applied. For the mobility analysis, persons must meet the sample inclusion criteria in the specific years under consideration – but not necessarily in other years.²

The age groups used were "entry" (20 to 24), "younger" (25 to 34), "prime" (35 to 54), and "older" (55 to 64).³ For the initial, static portion of the analysis, persons were grouped by their age in the relevant year; in the dynamic analysis, they were categorized by their age in the initial year, with older workers dropped as they aged beyond the upper cut-off. The dynamic analysis thus represents fixed cohorts that age over the period considered, with the older cohorts changing as increasingly longer periods are considered.

Younger men were also less likely to be near the top of the overall earnings distribution in 1992 than in 1983. Those in the upper two quintiles declined from 54.3% to 45.9% and those in the bottom two quintiles rose from 27.1% to 32.6%. Younger women saw somewhat less movement over the decade, maintaining their percentage in the top two quintiles (24.0%) and increasing only slightly in the bottom two (from 49.6% in 1983 to 51.0% in 1992).

Earnings mobility: the quintile transitions

In general, a relatively high degree of short-term earnings stability (or "immobility") between 1982 and 1983, and 1991 and 1992 characterized the upper quintiles especially.⁵ For example, 86.9% of earners in the top quintile in 1991

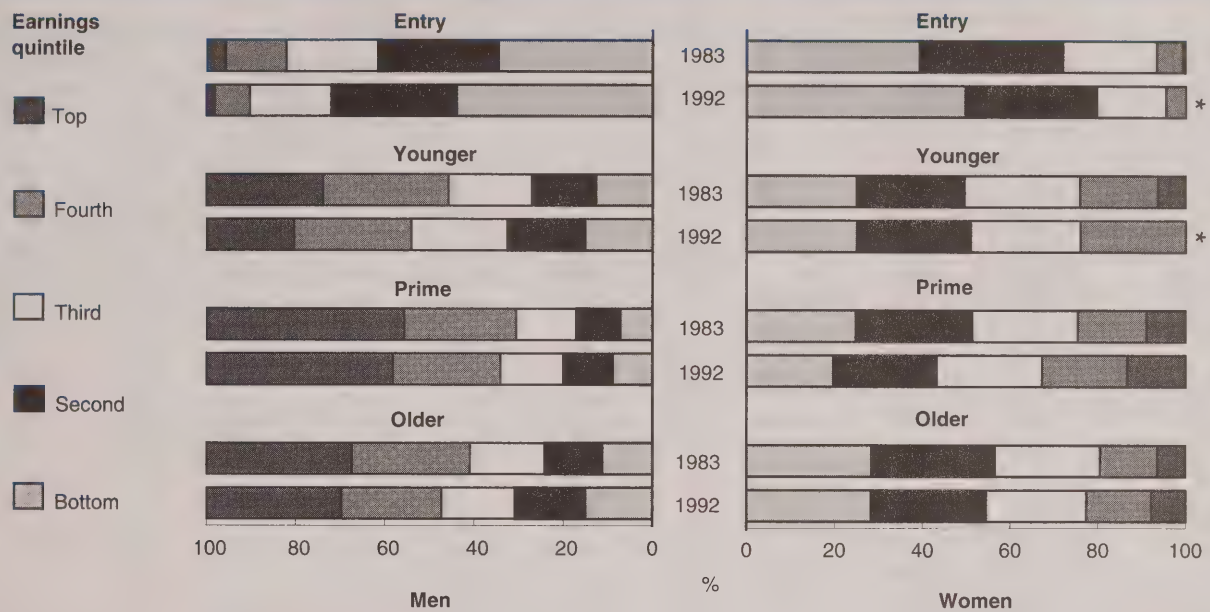
were similarly placed in 1992 (Table), while 65.2% and 57.6% of those in the bottom and second quintiles, respectively, remained in those positions. If those in adjacent quintiles are included, the percentage of persons who moved at least two quintiles from one year to the next was very low, between 4.2% and 7.3% across the different quintiles. Indeed, over different periods and lengths of interval, earnings stability was uniformly greatest at the top of the distribution.

Mobility was more evident over the longer term generally, especially among those in the bottom quintiles. For example, 76.8% of those in the top quintile in 1987 were there again in 1992, while only 40.0% and 37.0% of those in the bottom and second quintiles were similarly stable. Over 10 years,

while almost three-quarters (73.3%) of those in the top quintile in 1982 were similarly situated in 1992,⁶ barely one-quarter of those who started in one of the bottom two quintiles were still in the same low ranks (28.3% and 27.9%, respectively).

In short, earnings across the entire distribution tended to be stable over the one- and 2-year intervals, but – not surprisingly – far less so in the longer term (over 5 and 10 years). Furthermore, movement out of the lower levels was countered by relative stability at the top, especially over the longer term.⁷

This last observation should probably be taken as good news: over time, earnings have tended to improve for those at the bottom, while they have generally remained strong for those already at the top.

Chart A: Men were more heavily concentrated in the upper earnings quintiles.

Source: Longitudinal Administrative Databank

* Fourth and top combined.

But how can this be – how can there be more “winners” than “losers”? In other words, if a good number of earners are moving up in the distribution, and most who begin at the higher levels remain there, who is filling the void at the bottom? The answer is that new entrants are continually entering the labour market at lower earnings levels and moving up the distribution in turn (if they remain).

On the other hand, these tendencies – especially the upward movements – should not be exaggerated. For example, although “only” 28.3% of those who started out in the bottom quintile were still there 10 years later, over half of the low earning entrants (56.1%) were in one of the lower two quintiles and just 7.2% had made it to the top. In contrast, only 7.9% of those beginning in the top quintile

were in one of the bottom two groups 10 years later, while 73.3% remained at the top and 87.1% were in one of the top two quintiles. The same general pattern holds over the shorter intervals.

So, while many of those starting in the lower quintiles moved to higher levels in the earnings distribution over time, their gains were often not very large and their starting position remained a good predictor of where they would be in later years – even if the probability of moving up did increase over the long term.

Short-term upward mobility by age and sex

Regardless of their age or sex, those in the lower earnings quintiles experienced greater upward mobility from one year to the next than those in the higher ones. The gen-

eral nature of this finding is hardly surprising, but its strength and uniformity are notable, while setting the stage for what follows.

This observation also reveals the importance of looking at the dynamics by starting quintile – in order to assess the underlying *structures* of earnings mobility (Chart B). For example, although younger groups tended to have generally higher rates of short-term upward mobility, their earnings were lower to begin with. In fact, once the starting quintile is controlled for, mobility patterns tended to favour older groups of workers (except the oldest).

Men were generally more likely than women to move to higher earnings quintiles. However, short-term upward mobility declined over the 1982-92 period for all

Table: Quintile movements, all earners

Starting quintile	Period of dynamics									
	One year				2 years			5 years		10 years
	1982-83	1985-86	1988-89	1991-92	1982-84	1987-89	1990-92	1982-87	1987-92	1982-92
	%									
Moved up										
All	19.1	18.4	17.7	17.0	24.4	23.0	22.0	33.4	31.0	39.5
Top	...	...	...	...	...	...	...	...	...	...
Fourth	14.8	13.2	13.3	12.5	19.2	17.3	17.4	27.7	24.7	33.1
Third	20.7	19.4	18.7	18.0	26.2	24.4	24.6	37.0	34.7	44.2
Second	27.2	26.8	25.3	24.6	35.7	33.3	32.0	47.4	44.8	55.8
Bottom	37.3	36.7	35.6	34.7	47.2	46.2	43.0	62.3	60.0	71.8
Moved down										
All	13.6	12.5	13.8	13.8	14.6	16.0	16.5	16.5	19.0	19.2
Top	14.9	12.6	13.7	13.1	17.0	16.9	17.7	20.9	23.1	26.7
Fourth	16.9	15.0	17.3	16.9	17.8	20.5	21.0	21.0	25.2	25.3
Third	16.7	16.4	18.2	18.2	18.2	21.1	20.9	20.4	23.6	23.7
Second	16.4	16.1	17.3	17.8	16.8	18.4	18.6	16.9	18.2	16.4
Bottom	...	...	...	...	...	...	...	...	...	...
Stayed the same										
All	67.4	69.1	68.4	69.2	61.1	61.0	61.5	50.1	50.0	41.3
Top	85.1	87.4	86.2	86.9	83.1	83.1	82.4	79.1	76.8	73.3
Fourth	68.3	71.7	69.4	70.5	63.1	62.2	61.6	51.4	50.1	41.6
Third	62.6	64.2	63.1	63.9	55.6	54.5	54.5	42.6	41.7	32.1
Second	56.4	57.0	57.3	57.6	47.5	48.3	49.4	35.7	37.0	27.9
Bottom	62.6	63.2	64.4	65.2	52.8	53.8	56.9	37.7	40.0	28.3

Source: Longitudinal Administrative Databank

Note: The figures represent the percentage of individuals who moved up or down or stayed the same.

groups of men (except older men in the second quintile), with the declines most apparent at the onset of the early 1990s recession.

In contrast, women's upward mobility increased in some cases, remained essentially unchanged in others, and declined less steeply than men's in most of the remaining situations. Thus, although women's rates of upward mobility remained below those of men, their relative situation improved over the period, in some cases substantially.

Short-term downward mobility by age and sex

As might be expected from what was shown earlier, short-term downward mobility was generally less common than upward mobility for all groups except older men

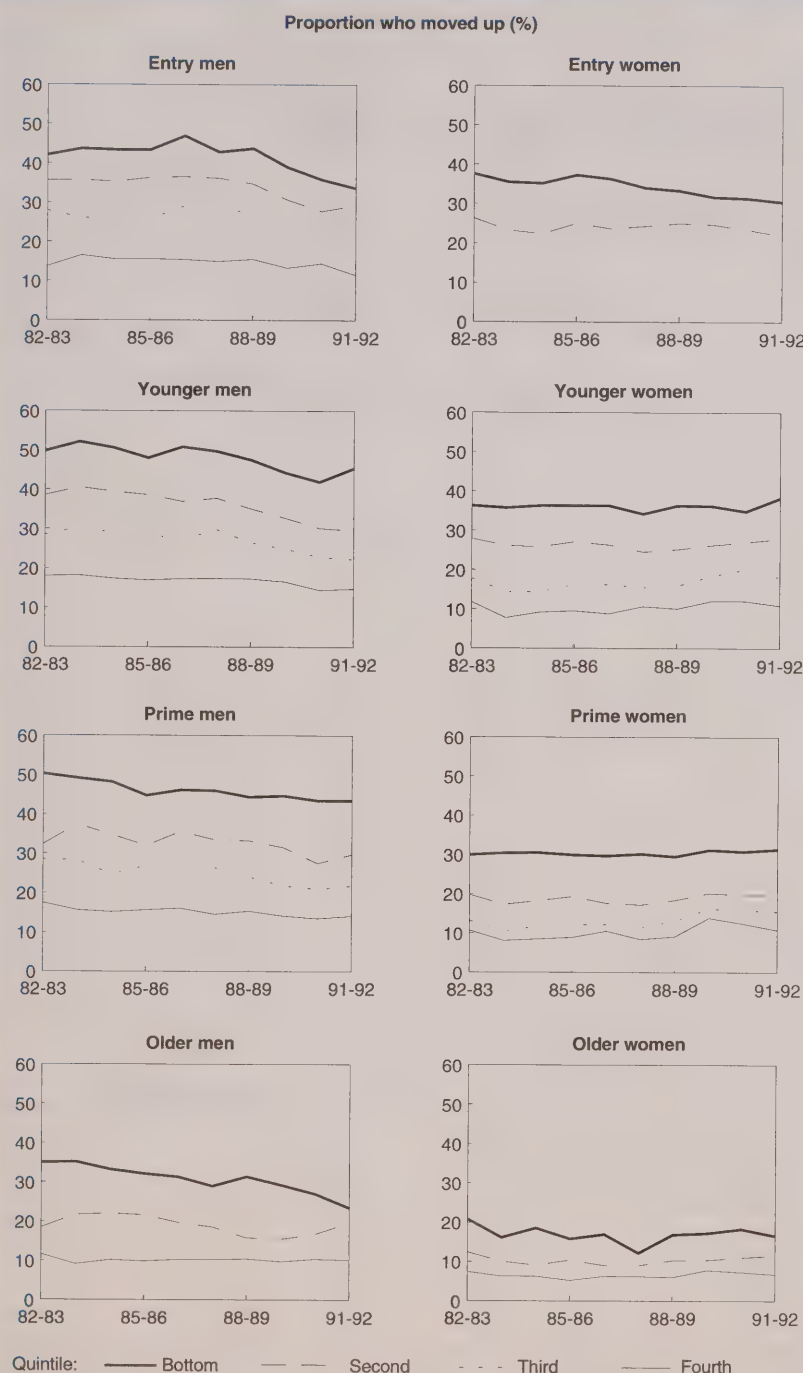
and women (Chart C). More precisely, in almost every case, the probability of moving up from the bottom and second quintiles was more common than the roughly comparable probability of moving down from the top or fourth quintiles; likewise, upward movements from the middle quintile were more common than downward ones. (Younger and prime age women in the middle quintile were, however, moderately more likely to move down than up in a number of cases.)

While short-term downward mobility was less common for entry age men than for younger or prime age men *overall*, this was largely because entry age men tended to be already more concentrated at the lower earnings levels.

Furthermore, the likelihood of their moving down from the top two quintiles, in particular, tended to be considerably *higher* than that of the two older groups. Prime age men were the most stable of all in the top quintile. Not surprisingly, older men were more likely to move down than the younger groups, reflecting their shift toward retirement.

The patterns by sex are mixed. Younger women were more likely to move down from the higher quintiles than were younger men, reflecting their looser attachment to the labour force during the principal child-bearing years. In contrast, prime age women were in many cases *less* likely to move down from a given quintile than were men in the same age group. A similar

Chart B: Men were generally more likely than women to move to higher earnings quintiles.



Source: Longitudinal Administrative Databank

pattern exists for older women and men. Thus, women have experienced greater stability at the top than have men.⁸

Finally, although mixed, the evidence generally suggests stable or reduced probabilities of moving down from the top two quintiles over the period ("increased stability at the top") across the various groups, and increased downward movement in the lower quintiles ("increased volatility at the bottom").

Long-term quintile dynamics by age and sex

Upward movement in earnings in the longer term – previously seen for all workers taken together – was especially strong among the entry age and younger groups (Chart D), particularly for those at lower levels. For example, of entry age men who had earnings in the bottom or second quintile in 1982, some 82.6% and 73.0%, respectively, had moved to a higher quintile by 1992. Younger men had moderately lower rates of upward mobility than the entry group, but even the prime age and older workers experienced substantial movement over the longer intervals.

Women's lower rates of upward mobility generally held over the long term (Chart D), but the shifts in these patterns over time were again in their favour. For entry age, younger, and prime age men, longer-term upward mobility declined across the board. In contrast, entry age, younger, and prime age women had almost uniform *increases* in the rates of upward mobility.⁹

Rates of downward mobility were generally much lower than rates of upward mobility in the longer term, especially for entry age and younger workers, but also for the prime age groups. For example, among younger men, 38.2% moved to higher levels over the 1982-92 period, while only 16.8% moved down. Longer-term (5-year) downward mobility increased almost uniformly for all men and decreased for women. As a result, longer-term earnings mobility patterns of men and women have also become more similar.

Summary

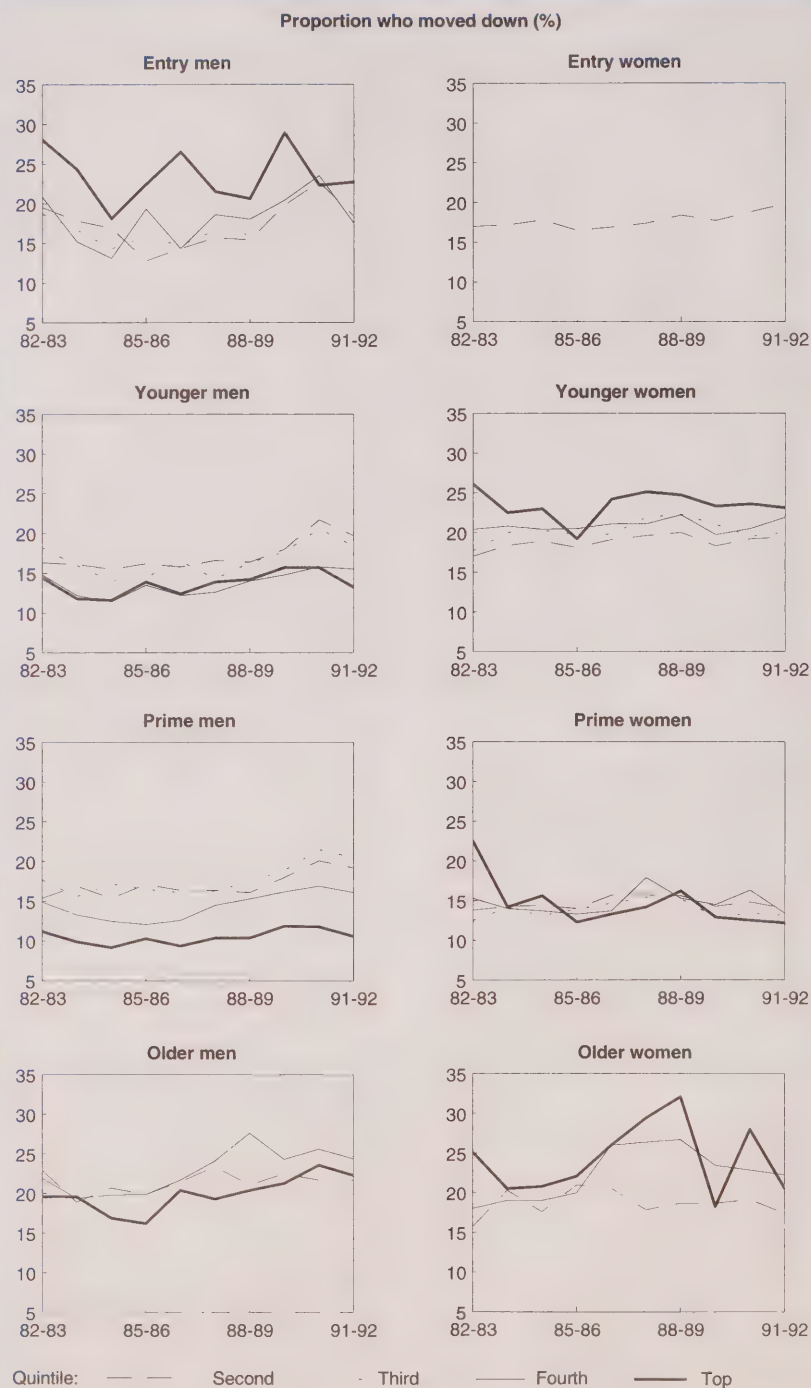
The 1982-92 period was characterized by both earnings mobility and earnings stability – a classic, “Is the glass half-empty or half-full?” issue.

Earnings were more stable at the top of the distribution, and movement was generally more upward than downward, especially over longer periods and particularly for younger workers, while the lower end was continually restocked with new entrants. For example, nearly three-quarters of all those in the top earnings quintile in 1982 were still in the highest group 10 years later, while only about one-quarter of those who started in the lowest quintile remained in the bottom quintile.

Mobility patterns varied substantially by age and sex. Younger workers tended to be more mobile than older ones, especially upward, while women were generally less likely to reach the top quintile.

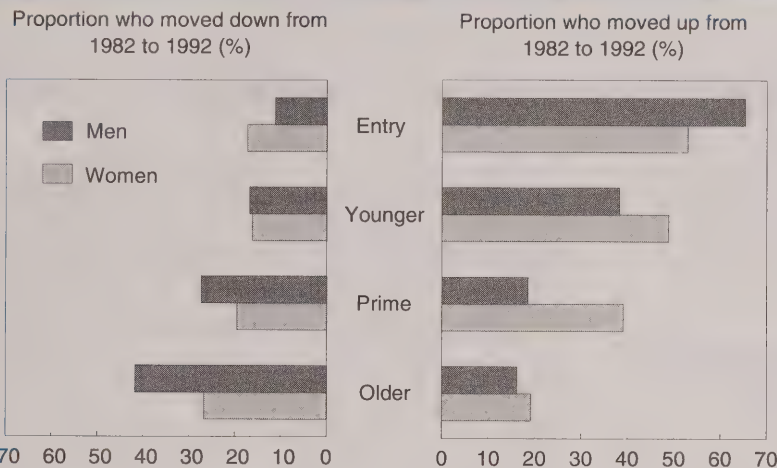
Upward mobility declined overall from the early 1980s to the early 1990s, but the shifts in the patterns varied considerably by age and sex

Chart C: Younger women were more likely than younger men to move down from the higher earnings quintiles.



Source: Longitudinal Administrative Databank

Chart D: Rates of downward mobility were generally much lower than rates of upward mobility in the longer term.



Source: Longitudinal Administrative Databank

(as did cross-sectional earnings patterns). Women in their core working years (25 to 54) were considerably more likely to move up through the earnings distribution in later years. Men of similar age experienced a slight decline in their rates of relative earnings growth, while the youngest groups of women and men (under 25) saw less upward mobility, especially those who began at the lower levels.

Perspectives

Notes

1 See Banting and Beach (1995) and Beach and Slotsve (1996) for literature reviews and recent empirical work.

2 For example, the measures of earnings mobility from 1982 to 1983 are based on identifying individual's positions in the cross-sectional distribu-

tions for persons in the working samples in both years. A similar approach is used over longer intervals and different periods.

3 Age is that at the end of the relevant year (as reported on tax forms).

4 See Finnie (1997) for supporting tables.

5 This greater stability at the top is due in part to the greater width (proportion of the median wage) of the upper quintile in real dollar terms. OECD (1996) addresses this point, and provides alternative results based on "equal width" earnings bands.

6 The stability at the top becomes even clearer when movements into the adjacent fourth quintile are taken into account. For example, the percentage of those starting in the top fifth of all earners who remained at or near the top was 89.7% over the 1987-92 period and 87.1% over the full 10-year interval.

7 Some 17.0% of all earners moved to a higher quintile in the most recent one-year transition, while 13.8% moved down and 69.2% remained in the same quintile (Table). Over 2 years, 22.0% moved up, 16.5% moved down, and 61.5% did not move. Over the most recent 5-year interval, 31.0% moved up, 19.0% moved down, and 50.0% stayed in the same quintile. Finally, over the full 10-year interval, 39.5% of all those who remained in the labour market had moved to a higher earnings quintile by the final year, 19.2% had moved to a lower one, and 41.3% remained in the same quintile.

8 Comparisons for the entry groups were not possible, because of their small numbers at the top.

9 See Finnie (1997), Table 9b, for 5-year intervals.

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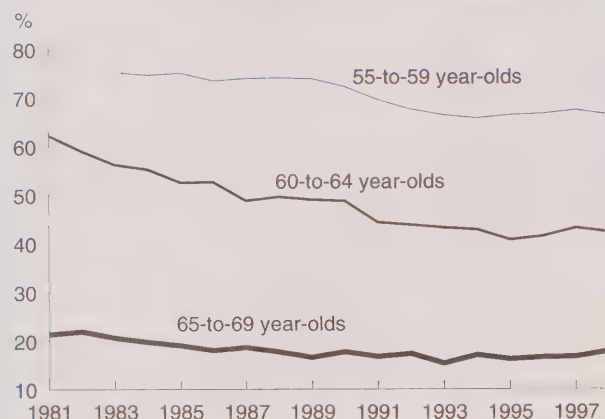
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Working past age 65

Mark Walsh

The percentage of men aged 55 to 64 with jobs (the employment rate) has been declining for many years, something that has been well documented. However, as the 1990s draw to a close, the rate appears to have stabilized (Chart A).

Chart A: Employment rates for older men seem to have stabilized.



Source: Labour Force Survey

Most studies of older employed men have focused on the so-called “pre-retirement years.”¹ This article looks at workers who are past the traditional retirement age of 65. It relates the employment rate for these workers to that of workers approaching 65.

According to this study, men 65 and over are increasingly likely to continue to be employed. Having established that finding, the article examines whether any changes in the workplace have accompanied this trend. The variables examined for change include self-employment, part-time work and flexible

Cohort versus longitudinal studies

Longitudinal studies survey the same persons repeatedly over time. Cohort studies make use of cross-sectional information at different points in time. This study compares a group of men aged 60 to 64 at a point in time and another group aged 65 to 69 five years later. Although these are not the same survey respondents (as they would be in a longitudinal survey), they are considered essentially the “same.” While not as precise as longitudinal studies, cohort studies do offer the advantage of timeliness.

work arrangements. These may facilitate a more gradual transition into retirement, in contrast to the abrupt “65 and out” scenario that once prevailed. The study does not attribute causality to these factors nor does it attempt to study all relevant variables – many of which did not have available data (health, wages, and net asset holdings, for example).

This article uses two measures to assess whether men have been delaying retirement in the 1990s. Using Labour Force Survey (LFS) data, it examines retirement trends of men aged 65 to 69 by measuring the likelihood of 60-to-64 year-olds’ remaining employed five years later. Using the same data source, it also looks at the complementary measure of continuing attachment to jobs by 65-to-69 year-old men: job tenure. Then, using data from the LFS and the Survey of Work Arrangements (SWA), the article considers whether the delay in retirement has been accompanied or facilitated by a growth in “transition-friendly” arrangements such as self-employment, part-time work, flexitime and home-based work.

Working past 65

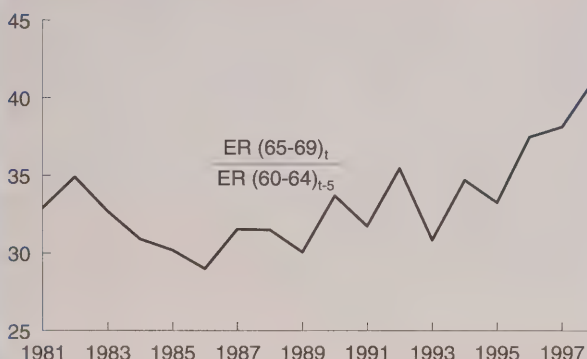
The percentage of men aged 65 to 69 with jobs has remained relatively stable in the 1990s (Chart A). On the surface this is surprising, since the employment rate of the 60-to-64 year-old “feeder group” has drifted downward in the 1990s. A plausible explanation may

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be that the percentage of employed 60-to-64 year-olds continuing to work past their sixty-fifth birthday is rising. To measure this more formally, the study calculated the likelihood of staying employed beyond 65 in the 1980s and 1990s (see *Estimating the likelihood of remaining employed*), which showed an upward trend beginning in the mid-1980s (Chart B). Specifically, in 1986 only 29% of men who were both employed and aged 60 to 64 five years earlier were apt to be still employed. By 1998, the likelihood had increased to 41%.

Chart B: Men aged 60 to 64 are increasingly likely to remain employed past age 65.

Likelihood of remaining employed (%)



Source: Labour Force Survey

Note: ER = employment rate

Another indication that men are increasingly holding jobs past age 65 comes from job tenure information. While cross-sectional LFS data provide measures of workers' tenure with their employers or in self-employment, they cannot show to what extent these people have picked up new jobs (paid or self-employment) after 65: this is possible only with longitudinal data. Despite this, cross-sectional estimates of the time that 65-to-69 year-olds had been with their current employers in 1989 and 1998, or remained self-employed, show some increase over the years.

Indeed, the incidence of longer tenure (defined in this study as the proportion of workers with job tenure of 5 years or more) increased from 69% in 1989 to 81% in 1998. Conversely, the incidence of shorter tenure declined from 20% to 11%. Average years of continuous service also rose slightly over the period, from 19 years to a little over 20 (Table 1).

Table 1: Tenure for male workers aged 65 to 69

	1989		1998	
		%		%
Tenure*				
0 to 2 years	15,700	20.3	10,300	10.7
5 years or more	53,700	69.3	77,100	80.5
Average tenure (years)	19.0		20.3	

Source: Labour Force Survey

* Consecutive years with current employer or as self-employed worker.

Work arrangements

The decision to retire is a complex one, influenced by a host of financial and other family circumstances, personal health, and even work arrangements. Although work arrangements cannot be seen as the major determinant in the decision to stay on the job beyond age 65, they may play an important role. To what degree are the increasing likelihood of remaining employed and longer job tenure accompanied or facilitated by related changes in the workplace? This study examines a few arrangements being used with greater frequency by men aged 65 to 69 in the 1990s. Although the examination takes two different approaches (cohort and time-series), the results are essentially the same.

Using the cohort approach, this study observes a group of men at five-year intervals, and examines how the incidence of self-employment or part-time work, for example, changes as the group ages (from 55 to 59 in 1988, to 60 to 64 in 1993, and 65 to 69 in 1998). In the time-series approach, the study compares the incidence of self-employment or part-time work for similar age groups (for example, 65-to-69 year-old men) at different points (1989 and 1998).

Self-employment

Choice, independence and flexibility are just some of the properties that make self-employment suitable for older workers and encourage many to work past the traditional retirement age.

The cohort results show an increasing incidence of self-employment: from 26% in 1988 when the group was 55 to 59, to 37% in 1993 (age 60 to 64) and 60% in 1998 (age 65 to 69) (Chart C).

Estimating the likelihood of remaining employed (LRE)

The likelihood of staying on the job is defined here as the ratio of the employment rate for a 65-to-69 year-old group at one point in time to that of a 60-to-64 year-old group five years earlier. (The employment rate is the proportion of the population in a particular age group that is employed.)

$$LRE_t = \frac{\text{Employment rate (65-69)}_t}{\text{Employment rate (60-64)}_{t-5}}$$

In most cases, the employment rate of the older group (numerator) will be less than that of the younger group (denominator) because more workers retire as they grow older. Thus, for employed men aged 60 to 64 the probability of continuing to be employed declines as they reach 65 to 69. In other words, the likelihood of remaining employed at 65 to 69 will be lower than 100%.

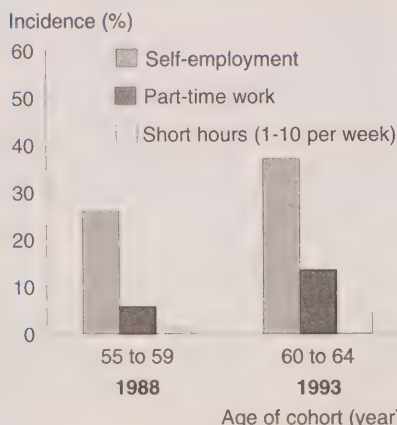
This study found that the likelihood of those aged 60 to 64 in 1981 remaining employed in 1986 was 29% (that is, $0.18 / 0.62 \times 100$). In other words, the likelihood of their having left the workforce in 1986 was 71%. Over time, a rising LRE indicates a greater probability of remaining employed at ages 65 to 69, and vice versa. The LRE is sometimes referred to as the "synthetic hazard rate" – synthetic because the database is cohort rather than longitudinal (Ruhm, 1995).

Calculating the LRE

	Employment rate		LRE
	Age 60 to 64	Age 65 to 69	
			%
1981	0.62		
1982	0.59		
1983	0.56		
1984	0.55		
1985	0.52		
1986	0.53	0.18	29
1987	0.49	0.19	32
1988	0.50	0.18	31
1989	0.49	0.17	30
1990	0.49	0.18	34
1991	0.44	0.17	32
1992	0.44	0.17	35
1993	0.43	0.15	31
1994		0.17	35
1995		0.16	33
1996		0.17	37
1997		0.17	38
1998		0.18	41

Source: Labour Force Survey

Chart C: The incidence of flexible work arrangements for men increases with age.



Source: Labour Force Survey

The time series results tell a similar story. While the incidence of self-employment has increased, its growth has been more pronounced among workers beyond the traditional age of retirement (Table 2). From 1989 to 1998, the incidence of self-employment for workers aged 65 to 69 grew from 51% to 60%, clearly exceeding the increase noted among younger workers in the same period.

Table 2: Self-employment among men

Age	1989		1998	
		%		%
15 to 54	972,200	14.9	1,274,500	18.4
55 to 59	111,100	24.8	140,800	29.9
60 to 64	83,000	30.8	95,700	38.7
65 to 69	39,100	50.5	57,000	59.5

Source: Labour Force Survey

Part-time work

As with self-employment, part-time work may ease the transition to retirement, allowing older workers to put in fewer hours a week near the end of their careers. Equally beneficial is the effect on the demand side of the labour market. Employers benefit from part-time work because it increases flexibility in work scheduling. This could lead to an increase in the demand for the part-time services of older workers, many of whom are highly skilled.

The cohort results indicate a growing tendency toward part-time work as men age. The part-time rate for the 55-to-59 cohort rose from 6% in 1988 to 13% in 1993 and 30% in 1998 (Chart C). The time-series results tell a slightly different story, however. They show the part-time rate for 65-to-69 year-old men as virtually unchanged between 1989 and 1998 (at around 31%). Even so, part-time work was twice as prevalent among this group as among their 60-to-64 year-old counterparts (Table 3).

Table 3: Part-time employment among men

Age	1989		1998	
		%		%
15 to 54	539,500	8.3	688,000	9.9
55 to 59	23,200	5.2	37,700	8.0
60 to 64	26,700	9.9	38,100	15.4
65 to 69	24,500	31.6	29,900	31.2

Source: Labour Force Survey

The incidence of routine one-to-10 hour work weeks (a subset of part-time work) was also examined. The data show a growing prevalence of this work arrangement as men age. Only 1% of employed men aged 55 to 59 in 1988 worked a short week. Five years later, approximately 4% did so, and by 1998, about 10% of the cohort (by then aged 65 to 69) were on this schedule (Chart C). The time-series results again differ slightly. In 1998, as well as in 1989, approximately 10% of 65-to-69 year-old employed men worked not more than 10 hours each week, although this rate exceeded that of their younger counterparts many times over (Table 4).

Flexible work arrangements

As with self-employment and part-time work, flexible work arrangements can encourage some older people

Table 4: Men working 1 to 10 hours a week

Age	1989		1998	
		%		%
15 to 54	175,800	2.7	200,700	2.9
55 to 59	6,500	1.4	10,300	2.2
60 to 64	8,200	3.0	10,300	4.2
65 to 69	8,000	10.3	9,400	9.8

Source: Labour Force Survey

to work longer. A comparison of data from the 1991 and 1995 Surveys of Work Arrangements (SWA) shows growth in several work arrangements compatible with delaying retirement. Two in particular are being used with greater frequency by older male workers: flexitime and working at home.

Flexitime allows varying start and end work times around a set of core hours. This permits an older worker to create a personally suitable work schedule, thus encouraging continued employment. Data from the SWA show a dramatic increase in the use of these arrangements by men aged 60 to 69 between 1991 and 1995.² Between those two years, the proportion of men aged 60 to 69 with a flexitime work arrangement increased more than twofold: from 15% to 35% (Table 5). Over the same period, the use of another helpful arrangement, working fully or partly from home, increased among older employed men; the incidence rose from 8% to 10%. Some increases were also observed in their use of a short work schedule (one to two days a week), and of on-call work.

Table 5: Work arrangements for men aged 60 to 69

Employees who...	1991		1995	
		%		%
had flexitime schedules*	27,700	15.3	61,300	34.9
worked at home	14,100	7.7	18,000	10.3
worked 1 to 2 days a week	8,800	4.7	10,800	6.2
did on-call work**	5,100	2.7	5,900	3.3

Source: Survey of Work Arrangements

* Times chosen within limits established by the employer.

** Hours vary substantially from one week to the next.

Conclusion

This article has shown that in the 1990s men are increasingly likely to work beyond the traditional retirement age of 65. This tendency has been accompanied or facilitated by an increase in such “retirement smoothing” work practices as self-employment, part-time work and other flexible work arrangements. These developments point to an interesting scenario. If the likelihood of remaining employed beyond 65 continues to increase, and if the recently observed stability in the employment rate for men aged 60 to 64 (the “feeder group”) is sustained, then the proportion of men working past traditional retirement age will certainly increase.

Perspectives

Notes

1 Gower (1997), for example, looked at how the median age of retirement drifted downward between 1976 and 1995. Variables in that study included not only sex, but class of worker, sector and job tenure. It also provided a brief international comparison. See also CLMPC (1997); Galarneau (1998); Ruhm (1995), and Statistics Canada (1997 and 1998).

2 The sample of the 65-to-69 year-old group alone was too small to be used. For similar reasons, and because the two surveys are four years apart instead of five, no cohort analysis is presented.

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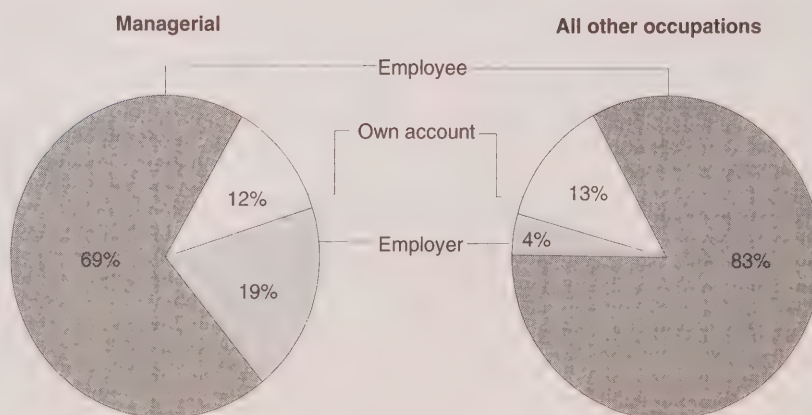
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Speaking of self-employment...

Much has been made of the growth in self-employment. One occupational group that reflects this growth is management. In 1998, almost one-third of managers were self-employed – nearly double the rate for all other occupations. Virtually all of the difference was attributable to those with employees.



Source: Labour Force Survey

Perspectives

Saving for retirement: RRSPs and RPPs

Ernest B. Akyeampong

Registered retirement savings plans (RRSPs) and employer-sponsored registered pension plans (RPPs) are the two main tax-assisted vehicles for retirement income planning in Canada (see *Data source and definitions*). Until 1957, only RPPs were available. An amendment to the *Income Tax Act* that year established RRSPs as a parallel tax-free savings vehicle for all employed taxpayers, but especially for those without RPP coverage. Mainly as a result of 1990 changes to the Act, which raised the ceilings for most taxfilers, contributions to “normal” RRSPs – those subject to standard deduction limits and excluding retiring allowance rollovers – have seen a dramatic increase (from \$13.4 billion in 1991 to \$23.8 billion in 1996). In contrast, employee contributions to RPPs have risen little (from \$6.3 billion to \$6.9 billion).¹

Only about a third of employees enjoy the benefits of RPPs (Maser, 1995). Other things being equal, employees *without* RPP coverage might be expected to show higher RRSP participation rates and larger average contributions – in line with the self-employed² (owners of unincorporated businesses). Likewise, when RPP contributions are factored into the equation, simi-

lar overall contributions might be expected for workers contributing to both plans, and for workers contributing to RRSPs only.³ But is this happening? This study uses 1996 tax data (the latest available at the time of writing) to address these questions. Although some information is provided on workers in non-contributory RPPs, this group is excluded from most of the analysis.

Differences in RPP and RRSP use

In 1996, most employees (63%) worked for firms without RPPs or deferred profit sharing plans (DPSPs) (see *A closer look at employees and exclusions*). For the remaining 37%, participation in such plans was generally obligatory for those who were eligible to participate.⁴ Approximately one-quarter (1.0 million) of these employees belonged to non-contributory RPPs. The three-quarters (3.1 million) belonging to contributory plans put in an average \$1,951. About 1.4 million plan members contributed *only* to RPPs in 1996, an average \$1,719. The remaining 1.7 million who contributed to both RPPs and RRSPs contributed an average \$2,135 to their RPPs.

RRSP eligibility depends on tax rules that require an eligible income and a pension adjustment (PA) less than RRSP room (Frenken and Maser, 1993). Nonetheless, RRSP

participation and contributions depend on personal objectives and circumstances such as personal and family income, age and sex (Frenken, 1990; Frenken and Maser, 1993; Aldridge, 1997).

Overall, approximately 80% of taxfilers in 1996 were eligible to contribute to RRSPs; that is, they had RRSP room (Table 1). Slightly more than 95% of employees and the self-employed enjoyed such eligibility, but among the “residual” taxfilers (for example, persons relying mainly on government transfer payments, many of whom file only to obtain refundable tax credits, and pensioners) the level was 58%.

Almost all employees (99%) in firms with employer-sponsored pension plans (contributory or non-contributory) were eligible to contribute; for those in firms without such plans, the rate was slightly lower (93%). Similarly, among the self-employed, RRSP eligibility ranged from 91% for farmers to 98% for professionals (for example, doctors and lawyers).

Of taxfilers eligible to participate in RRSPs, 36% made some contribution in 1996. Employees were more likely to do so than the self-employed; 43% of eligible employees made some contribution, compared with 35% of the eligible self-employed. Only 21% of the eligible residual taxfilers did so.

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Table 1: Normal RRSP eligibility, participation rates and contributions, 1996

	All taxfilers	Eligible taxfilers	Eligibility rate	Contributors	Participation rate*	Average contribution
	'000	'000	%	'000	%	\$
Total	20,806	16,646	80.0	6,000	36.0	3,959
Employees	11,209	10,662	95.1	4,616	43.3	3,689
Non-RPP covered	7,092	6,586	92.9	2,260	34.3	3,992
RPP-covered	4,117	4,076	99.0	2,357	57.8	3,398
Non-contributory plans	1,039	1,023	98.5	639	62.4	4,017
Contributory plans	3,078	3,053	99.2	1,718	56.3	3,168
Only RPP contributions	1,360	1,335	98.2	-	-	-
Both RPP and RRSP contributions	1,718	1,718	100.0	1,718	100.0	3,168
Self-employed	1,129	1,075	95.2	372	34.6	5,579
Farmers	174	158	91.1	48	30.4	4,306
Fishermen	24	24	97.4	7	31.5	5,030
Professionals	169	165	97.6	101	61.3	9,107
Salespersons	63	59	95.1	24	40.6	6,009
Business proprietors or partners	699	668	95.5	191	28.6	3,995
Others	8,468	4,910	58.0	1,012	20.6	4,599

Source: Revenue Canada

* Contributors to normal RRSPs as a percentage of eligible taxfilers.

RRSP participation also varied among the groups. For example, among eligible employees, those working in firms offering an employer-sponsored pension plan were more likely to participate (58%) than those working in firms without RPPs (34%). Not surprisingly, the participation rate for employees covered by non-contributory RPPs was slightly higher than that for those with contributory plans.

Among the self-employed, RRSP participation rates ranged from around 30% for farmers, fishermen and business proprietors or partners – groups whose annual incomes are generally low and highly fluctuating – to 61% for professionals.

The similarity in RRSP participation for the self-employed and employees without RPP coverage is not surprising. But the higher rate recorded by employees in firms

with RPPs runs counter to expectation. What lies behind this finding? Low incomes appear to be a major factor in lowering the RRSP participation rate for taxfilers without RPP coverage (Frenken, 1990; Frenken and Maser, 1993). For example, in 1996 some 52% of non RPP-covered employees and 61% of the self-employed (mostly non-professionals) reported annual incomes of less than \$20,000, compared with only 9% of RPP-covered employees (Table 2).

Other factors seem to play a role in keeping RRSP participation low for the self-employed as a group. While participation tended to rise with income for employees (whether RPP-covered or not) and for self-employed professionals, this was not the case for the non-professional self-employed. Farmers, fishermen, salespersons and business proprietors or partners with annual incomes of \$80,000 or

more recorded inexplicably low RRSP participation rates in 1996.⁵ The result was that as a group only 49% of self-employed workers at this income level contributed to RRSPs, compared with more than 80% of employees.

The average contribution to RRSPs in 1996 amounted to \$3,959 (Table 1): \$3,689 by employees and \$5,579 by the self-employed. Employees without an RPP contributed more than those with an employer-sponsored plan (\$3,992 versus \$3,398). Furthermore, employees in non-contributory RPPs, as expected, put more money into RRSPs (an average \$4,017) than their counterparts in contributory plans (\$3,168). Variations among the self-employed were even more pronounced and largely reflected differences in income: average contributions ranged from \$3,995 for business proprietors or partners to \$9,107 for professionals.

A closer look at employees and exclusions

This study identifies 11.2 million taxfilers in 1996 as "employees" (those whose major source of gross income was wages or salaries and who reported no self-employment income). Some 7.1 million of this group (63%) did not have access to an employer-sponsored pension. As with the self-employed, they could contribute only to RRSPs. Almost all the remaining 4.1 million employees, identified by PA information, had RPPs, including DPSPs in some cases.

Employees	11,209,000
Without PA (Non RPP-covered)	7,092,000
With PA (RPP-covered)	4,117,000
In non-contributory RPPs	1,039,000
In contributory RPPs	3,078,000
Contributed only to RPPs	1,360,000
Contributed to both RPPs and RRSPs	1,718,000

Source: Revenue Canada

Approximately one-quarter of the 4.1 million employees with a PA did not make an RPP contribution in 1996: they had non-contributory RPPs or DPSPs. The remainder participated in contributory RPPs, and hence had deductions from their earnings.

Not all those with contributory RPPs made an RRSP contribution in 1996. Approximately 44% chose not to

contribute or could not do so because their PAs equalled or exceeded their RRSP room. The remaining 56% also purchased RRSPs.

Approximately 8.5 million 1996 taxfilers were excluded because they did not meet the target criteria (see *Data source and definitions*). Most of their income came from sources deemed ineligible for RRSP purposes. Approximately 1.0 million were both employees and self-employed over the course of the year. Furthermore, 86% of the excluded taxfilers made neither an RPP nor an RRSP contribution in 1996, making their exclusion inconsequential for this study.

Major gross income source	Excluded taxfilers	With income from				No contributions
		Employment	Self-employment	Both		
	millions		%		%	
Total	8.5					86
Investments	1.2	20	8	2	85	
Pensions	3.6	10	3	1	93	
Unclassified	2.7	19	2	1	94	
"Mixed" employed/self-employed	1.0	100	100	100	38	

Source: Revenue Canada

Table 2: RRSP participation by income, 1996

	Employees		Self-employed
	Contributory RPPs	No RPP coverage	
%			
Eligible taxfilers			
Total	100.0	100.0	100.0
Under \$10,000	1.7	23.9	35.1
\$10,000-19,999	6.8	28.4	25.5
\$20,000-39,999	41.1	33.0	20.4
\$40,000-59,999	33.6	9.5	6.2
\$60,000-79,999	12.3	2.8	2.6
\$80,000 and over	4.5	2.4	10.2
RRSP participation rate*			
Total	57.8	34.3	34.6
Under \$10,000	8.1	5.6	10.5
\$10,000-19,999	31.5	21.9	32.2
\$20,000-39,999	50.1	47.4	54.7
\$40,000-59,999	65.5	70.9	71.8
\$60,000-79,999	75.9	82.1	79.0
\$80,000 and over	80.6	87.5	49.2

Source: Revenue Canada

* Contributors to normal RRSPs as a percentage of eligible taxfilers.

As hypothesized, the average RRSP contribution by the self-employed or by employees with no RPP coverage was greater than that for employees in contributory RPPs. However, the expectation that *total* retirement savings would tend to be similar was only partly met. RPP-covered employees also contributing to RRSPs set aside an average \$5,303 (\$3,168 to an RRSP and \$2,135 to an RPP), close to the average \$5,579 put into RRSPs by the self-employed, but much higher than the \$3,992 contributed by employees without RPP coverage (Table 3). A higher concentration of low income earners among the last group – of whom roughly 85% had incomes of less than \$40,000 in 1996 – along with smaller-than-average RRSP contributions (Table 4), explains their low overall average.

Age, sex and income influence contributions

This study also considered demographic variables. The likelihood of participating in an RRSP and the amount contributed depend on a number of personal characteristics (Frenken, 1990; Frenken and Maser, 1993; Aldridge, 1997). Thus, the differences

Table 3: Average pension plan contributions by sex, 1996

	Both sexes	Men	Women
		\$	
Employees in contributory RPPs contributing to both			
RPPs	2,135	2,339	1,935
RRSPs	3,168	3,530	2,813
Total (RPP + RRSP)	5,303	5,869	4,748
Non RPP-covered employees (RRSPs only)	3,992	4,660	3,189
Self-employed (RRSPs only)	5,579	6,217	4,346
Farmers	4,306	4,434	3,838
Fishermen	5,030	5,387	2,619
Professionals	9,107	10,150	7,027
Salespersons	6,009	6,129	5,775
Business proprietors or partners	3,995	4,587	3,047

Source: Revenue Canada

noted earlier are not just a reflection of class of worker or RPP coverage.

To control for demographic characteristics, this section breaks the worker groups into sub-populations. Ideally, such factors as family income and accumulated

funds already in RRSPs would be considered. However, as these variables are not included in the taxfile used, the analysis is restricted to age, sex and income. The focus is on amounts contributed and, among RPP-covered employees, on those making both RPP and RRSP contributions. This

approach should reveal whether the findings are in line with results from earlier studies, and whether the overall findings presented in the previous section hold true after disaggregation.

Overall, men contribute more to RRSPs than women (Frenken, 1990; Frenken and Maser, 1993).⁶ This finding holds for all three worker groups in this study; that is, irrespective of RPP coverage (Table 3). Frenken and Maser also noted that for both sexes combined, average RRSP contributions increased with age. This study corroborates that finding for employees with or without RPP coverage and for the self-employed up to age 49, after which it notes a decline (Table 5). The first study also established that for the two sexes combined, average RRSP contributions increased with income (Frenken, 1990). The current study also finds this to be true irrespective of RPP coverage (Table 4). Furthermore, non RPP-covered employees and

Table 4: Average pension plan contributions by income, 1996

	Total	Under \$10,000	\$10,000-19,999	\$20,000-39,999	\$40,000-59,999	\$60,000-79,999	\$80,000 +
				\$			
Employees in contributory RPPs contributing to both							
RPP	2,135	243	531	1,343	2,366	3,326	3,670
RRSP	3,168	684	1,593	2,325	3,349	4,181	5,982
Total (RPP + RRSP)	5,303	927	2,124	3,668	5,715	7,507	9,651
Non RPP-covered employees (RRSPs only)	3,992	824	1,615	2,837	5,290	8,450	12,701
Self-employed (RRSPs only)	5,579	1,220	2,421	4,510	7,426	10,200	12,827
Farmers	4,306	1,072	2,463	4,281	6,379	7,660	10,272
Fishermen	5,030	2,233	2,319	3,630	8,549	7,092	12,751
Professionals	9,107	1,314	2,749	5,271	8,174	10,763	13,321
Salespersons	6,009	1,325	3,131	4,597	7,484	11,372	11,914
Business proprietors or partners	3,995	1,218	2,303	4,380	7,190	10,041	11,144

Source: Revenue Canada

Table 5: Average pension plan contributions by age, 1996

	All ages	<25	25-39	40-49	50-59	60 +
	\$					
Employees in contributory RPPs contributing to both RPP and RRSP						
RPP	2,135	897	1,834	2,360	2,426	1,840
RRSP	3,168	1,792	2,993	3,196	3,438	3,735
Total (RPP + RRSP)	5,303	2,689	4,826	5,556	5,864	5,575
Non RPP-covered employees (RRSPs only)	3,992	1,551	3,552	4,756	4,986	5,767
Self-employed (RRSPs only)	5,579	3,581	5,208	5,950	5,708	5,614
Farmers	4,306	3,181	4,018	4,324	4,723	4,310
Fishermen	5,030	4,407	5,125	5,070	4,832	5,249
Professionals	9,107	3,725	8,253	9,590	9,816	9,453
Salespersons	6,009	2,893	5,020	6,438	6,670	7,014
Business proprietors or partners	3,995	3,656	3,744	4,212	4,023	4,150

Source: Revenue Canada

self-employed contributors with annual incomes of at least \$80,000 came close to reaching the RRSP ceiling allowance (\$13,500) – exclusive of unused room from previous years – in 1996.⁷

Once RPP contributions are factored in, how do findings in the two sections of the analysis compare? For men, such contributions tended to close the savings gap between RPP-covered employees contributing to both plans (\$5,869) and the self-employed (\$6,217) (Table 3). The picture among women is somewhat different: RPP-covered employees contributing to both plans put more money into retirement savings (\$4,748) than their self-employed or non RPP-covered counterparts (\$4,346 and \$3,189, respectively).

Both the self-employed and RPP-covered employees contributing to both plans tended to put away similar amounts in all age groups. In 1996, non RPP-covered employees contributed the least up

to age 59 (Table 5). At 60 and over, average retirement savings were similar for the three groups (in the \$5,600-to-\$5,800 range).

Factoring in RPP contributions also tended to close the gap between the self-employed and RPP-covered employees contributing to both plans for those with incomes of less than \$40,000 (Table 4). In that income range, the combined pension contributions of RPP-covered employees exceeded pension savings of their counterparts without such coverage; beyond that, the reverse was true. Among those with annual incomes of \$80,000 or more in 1996, non RPP-covered contributors (both employees and the self-employed) contributed around \$13,000, close to the maximum RRSP allowance, compared with an average combined pension contribution of \$9,651 for employees with employer-sponsored pension plans.

Summary

Contrary to expectation, the 1996 RRSP participation rate was considerably higher among employees with an RPP than among taxfilers without such coverage. High income appears to be a major factor in the behaviour of the former. Generally low incomes among larger proportions of employees without RPP coverage and among the self-employed most likely influenced their RRSP participation rates: more than half of these taxfilers reported an annual income of less than \$20,000 in 1996. Surprisingly, relatively low rates were also recorded for non-professional self-employed taxfilers with very high annual incomes (\$80,000 and over).

Average RRSP contributions, as expected, were higher among those without RPP coverage, especially for the self-employed. However, when RPPs are considered, average retirement savings by employees contributing to both plans were similar to those of the self-employed, and higher than those of employees without RPP coverage.

Average contributions to RRSPs tended to be higher for men, and to rise with income. Contributions also increased with age for employees with or without RPP coverage, but fell among the self-employed after age 49.

When RPP contributions were taken into account, the self-employed as a group generally put more money into retirement savings, although the gap between this group and contributory RPP-covered employees tended to shrink. Average savings by non RPP-covered employees generally trailed. A few exceptions were

Data source

This study uses Revenue Canada's 2% sample file of taxfilers (sometimes referred to as the Greenbook taxfile).

For each tax year, taxfilers with a pension adjustment (PA) and RRSP room, as well as those with RRSP contributions and the amounts claimed (contributed), can be tabulated. The file also provides income by source.

Data from this taxfile differ in some respects from those published by Statistics Canada's Small Area and Administrative Data Division (SAADD). For example, the Greenbook taxfile excludes retiring allowance rollovers (estimated at over \$3 billion in 1996). Since such allowances are applicable only to employees, their exclusion actually improves the validity of the employee/self-employed comparisons in this study. Also, the Greenbook taxfile slightly undercounts employees with a pension adjustment (PA). For explanations, see Revenue Canada (1998).

The fact that some taxfilers have both self-employment income and earnings as employees complicates comparisons. To overcome this difficulty, taxfilers (20.8 million in 1996) were divided into those whose major source of gross income was wages or salaries and who reported no self-employment income (11.2 million employees), and those whose major

Data source and definitions

source of gross income was from unincorporated self-employment and who reported no wages or salaries (1.1 million). The self-employed were further divided into five groups: farmers, fishermen, professionals, salespersons and business proprietors or partners. A "residual" group (8.5 million; see *A closer look at employees and exclusions*) reported their major source of income as investments, pensions, government transfers, or combined self-employment income and wages or salaries.

Definitions

Contributory RPP: an RPP under which employees are required to contribute toward the cost of the benefits.

Deferred profit sharing plan (DPSP): an employer-sponsored savings plan registered with Revenue Canada. Employers' contributions (employees may not contribute) are based on profits. The accumulated amount may be paid out as a lump sum at retirement or termination of employment, received in instalments over a period not to exceed 10 years, or used to purchase an annuity.

Group RRSP: an arrangement for employees or members of a professional or trade association. Individual RRSP contracts must be registered for each participant and separate accounts kept for each. Employer contributions are treated as employees' earned income for income tax purposes.

Non-contributory RPP: an RPP under which the entire cost is borne by the employer.

Pension adjustment (PA): a calculated value of the pension credits accrued by taxfilers in an employer-sponsored pension plan – whether the plan requires employee contributions or not – or a deferred profit sharing plan. The PA, which is calculated from the previous year's pension credits, decreases the RRSP room or deduction limit. The use of the PA is intended to provide similar tax breaks to workers with or without RPP coverage.

Registered pension plan (RPP): an employer-sponsored plan registered with Revenue Canada and often with a pension regulatory authority.

Registered retirement savings plan (RRSP): a capital accumulation program to encourage saving for retirement. Contributions are tax-deductible within prescribed limits. Each year's RRSP limit is reduced by the assessed value of benefits accrued in the previous year under an RPP or DPSP (the PA). Unused contribution room may be carried forward. Investment income earned in the RRSP is tax-exempt until the plan is collapsed.

RRSP normal contribution: the amount – whether to the taxfiler's or the taxfiler's spousal plan – that is within the deduction limit and that reduces RRSP room. This excludes retiring allowance rollovers.

notable: women with contributory RPP coverage made larger contributions to retirement savings than did those without (employee or self-employed); at age 60 and over, members of all three taxfiling groups made almost identical average contributions; and at annual incomes of \$60,000 and

over, non RPP-covered employees put more money into retirement savings plans than their counterparts in contributory RPPs.

Finally, at very high income levels (\$80,000 and over), both employees without RPP coverage and self-employed contributors, irrespective of occupation and in

spite of low participation rates for the non-professional groups, contributed close to the maximum RRSP deductible limits. The combined average retirement savings for contributory RPP-covered employees in this income group was lower.

Perspectives

■ Notes

1 Employee contributions constitute only a fraction (37% in 1996) of total RPP contributions. Employers contribute the remainder.

2 In this study, the definitions of "employee" and "self-employed" are those of Revenue Canada. As such, they differ from those of the Labour Force Survey (LFS). In the LFS, the self-employed comprise self-employed in both incorporated and unincorporated businesses, and unpaid family workers. However, because unpaid family work is not reported on the tax form, and income from incorporated self-employment is indistinguishable from that of paid employment (both are reported on the same line), Revenue Canada technically treats incorporated self-employed taxfilers as employees. Thus, in this study self-employed taxfilers refer to unincorporated ones only.

3 The latter may belong to non-contributory RPPs, may not have RPP coverage, or may be self-employed. Indeed, for equity reasons the pension adjustment (PA) rules of the *Income Tax Act* allow higher RRSP contributions for taxfilers without RPP coverage. The inclusion of the PA in

calculating RRSP room was intended to provide similar tax breaks to workers with or without RPP coverage (Frenken, 1995).

4 In many firms with RPPs, part-time, casual and fixed-term employees are not eligible to participate in the plans. Increasingly, and especially in the public sector, these employees are being covered on a prorated basis.

5 In 1996, RRSP participation rates for eligible self-employed taxfilers with incomes of \$80,000 or more were as follows: farmers (21.2%), fishermen (68.8%), professionals (89.5%), salespersons (65.1%) and business proprietors or partners (14.9%).

6 Using 1987 data, Frenken noticed that while the overall average for men was higher than that for women, at annual incomes of \$50,000 or more the reverse was the case.

7 For 1996, the maximum RRSP deduction limit was \$13,500 or 18% of eligible earnings – whichever was less.

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Hours polarization at the end of the 1990s

Karen Hall

During the last 20 years, both short (less than 35 hours) and long work weeks (more than 40 hours), have become increasingly popular. This movement away from the standard work week is known as "hours polarization."

The following tables show the change in hours worked, and in paid and unpaid overtime, between 1976 and 1998. Distributions by sex, occupation and industry are provided, as is a comparison with the United States.

Data source and definitions

This paper uses data from Statistics Canada's Labour Force Survey (LFS). All figures are annual averages and apply only to employees (the self-employed are not included). Overtime figures apply only to employees who were at work during the reference week. All other figures refer to all employees, whether or not they were at work during the reference week. Throughout this analysis, the term **standard work week** refers to the 35-to-40 hour work week (actual hours between 35.0 and 40.9 hours). **Long hours** refers to a work week of 41 hours or more, while **short hours** refers to less than 35 hours, including 0 hours.

"Hours polarization" (Sheridan, Sunter and Diverty, 1996) is a decline in the proportion of people working standard hours, matched with increases in the proportions of people working long and short hours. **Hours inequality** is a unidirectional shift in the distribution of hours in which the proportion of people working standard hours declines, and the proportion of people working *either* long *or* short hours, *but not both*, increases correspondingly.

The years 1980, 1989, and 1998 were chosen to avoid business cycle effects. This affects the analysis somewhat: the growth of short hours between 1989 and 1998 may

appear exaggerated, for example, because short hours reached their lowest level in 20 years in 1989.

Usual hours

Nearly all of Statistics Canada's literature on hours of work refers to usual hours. Conceptual changes introduced during the phase-in of the 1997 redesign of the Labour Force Survey, however, resulted in a break in the usual hours time series in the autumn of 1996. The variables and data series relating to hours of work were revised in order to ensure accuracy in wage estimates. Prior to the redesign, usual hours included any paid or unpaid overtime usually worked in a week; with the new survey, the usual hours variable now measures only contract or scheduled hours of work.

Actual hours

The actual hours time series continues unbroken from 1976. Actual hours may be lower or higher than usual hours: lower because of vacation, illness, or other absences from work; higher because of paid or unpaid overtime. The LFS data allow hours away from work and reasons for absence to be measured, along with the number of total, paid, and unpaid overtime hours worked.

(Based on a paper presented at Statistics Canada's Economic Conference 1999 [Probing the New Economic Realities] in Ottawa, March 23 and 24, 1999.) Karen Hall is currently on leave from the Labour Force Survey Program, Statistics Canada. For further information about this study, contact Geoff Bowlby at (613) 951-3325 or bowlgeo@statcan.ca.

Usual versus actual hours worked, 1998

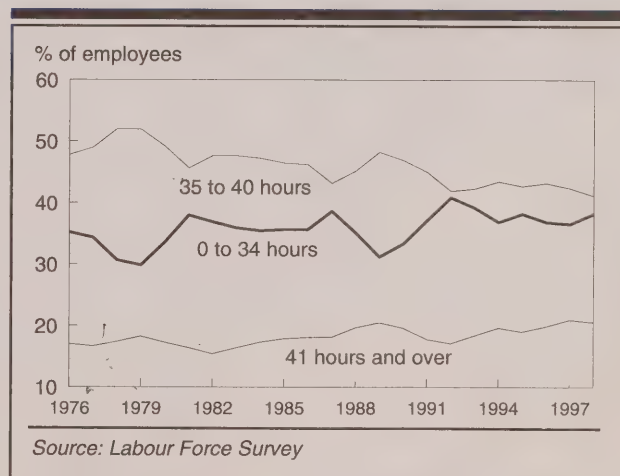
Usual and actual hours correlate reasonably closely, although the association is stronger at the poles. In 1998, some 94% of those who usually worked less than 35 hours a week reported similar actual hours; 82% of those who reported usual hours of 41 and over also reported similar actual hours. The association was not quite as strong in the middle: just 61% of those whose usual hours were between 35 and 40 reported actual hours in the same range; some 22% reported short actual hours, while 17% reported long actual hours.

	Actual hours		
	0 to 34	35 to 40	41 and over
	% of employees		
Usual hours	38.3	41.2	20.6
Less than 35	94.4	4.0	1.6
35 to 40	22.0	61.4	16.7
41 and over	11.3	7.1	81.6

Source: Labour Force Survey

Actual hours worked, 1976-1998

Between 1976 and 1998, the proportion of employees working 35 to 40 hours declined, while the proportions working more or working less increased. Most of this drop was due to the decreasing popularity of the 40-hour work week. The percentage of workers putting in 35 to 39 hours has remained reasonably stable since 1980, at around 16%, but a pronounced drop has occurred in those working 40 hours: just 25% of workers did so in 1998, compared with 32% in 1980 and 1989. The proportion with zero hours has remained relatively constant, fluctuating between 7% and 8%.



Actual hours worked by sex, 1980-1998

Women are far more likely than men to work short hours, in part because their absence rate is almost twice that of men. In 1998, 50% of women and just 28% of men worked less than 35 hours per week. Twice as many women worked between one and 14 hours (8% versus 4%). More women also worked between 35 and 39 hours: in 1998, 12% of men and 20% of women clocked between 35 and 39 hours, compared with 12% and 23% in 1980.

Men outnumber women at the long hours end of the distribution. More men than women worked between 35 and 40 hours (in 1998, 43% versus 39%, down from 51% and 47% in 1980). At least twice as many men as women worked between 41 and 49 hours a week (15%, compared with 7%). Finally, women were much less likely than men to work very long hours. In 1998, 6% of men and 1% of women worked 60 or more hours a week.

	1980			1989			1998		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
Hours									
0 to 34	33.5	25.5	45.1	31.2	21.6	42.6	38.3	27.9	49.6
35 to 40	49.2	50.9	46.8	48.2	50.0	46.2	41.2	43.3	38.8
41 and over	17.3	23.7	8.1	20.5	28.4	11.3	20.6	28.8	11.6
<i>Source: Labour Force Survey</i>									

Actual hours worked by sex, 1993-1998

In the short term, the distribution of actual hours worked has remained fairly static since 1993. The percentage of those working less than 35 hours has changed only 1% from 1993 to 1998, remaining around 39%. The proportion working a standard work week has remained around 42%, with a much

closer distribution between men and women (about 44% for men, compared with 39% for women). Finally, the percentage of those working long hours has remained around 20% since 1993. Men are more likely than women to work longer hours (29% versus 12%).

Year	Hours								
	0 to 34			35 to 40			41 and over		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
1993	39.2	29.3	50.1	42.4	44.7	39.8	18.4	26.0	10.1
1994	36.9	26.8	48.1	43.5	45.4	41.3	19.6	27.8	10.5
1995	38.2	28.2	49.4	42.7	44.9	40.3	19.0	26.9	10.4
1996	36.9	26.6	48.3	43.2	45.5	40.7	19.9	27.9	11.1
1997	36.6	26.0	48.4	42.4	44.9	39.6	21.0	29.1	12.0
1998	38.3	27.9	49.6	41.2	43.3	38.8	20.6	28.8	11.6

Source: Labour Force Survey

Actual hours worked by industry, 1989-1998

Actual hours of work vary by industry.¹ The polarization pattern of the 1976-95 period (Sheridan, Sunter and Diverty, 1996) continues: long hours are still more common in goods-producing industries, and short hours more common in service-producing industries.

High rates of long hours in 1998 were recorded in agriculture (36%), primary industries (39%), construction (29%), manufacturing (28%), and transportation and warehousing (29%). In fact, 12% of workers in agriculture and in primary industries worked more than 60 hours.

Short hours, too, are related to industry. More than half of workers in accommodation and food services (59%) and health care and social assistance (51%), and just under half in educational services (48%) and trade (45%) put in under 35 hours in 1998. In addition, 39% of workers in management and administrative support and 37% of those in agriculture² worked less than 35 hours.

The standard work week declined in every industry (except agriculture, where it registered a 3 percentage-

point gain) between 1989 and 1998. These declines were matched with increases in short hours and, in some industries, declines in long hours.

The greatest move away from the standard work week was in utilities (14 percentage points), which experienced a nearly 10-point increase in short hours and a 5-point increase in long hours. Similarly, standard hours in primary industries declined by almost 11 points, short hours rose 5 points and long hours increased 6 points.

These two cases were, however, somewhat anomalous: in other industries, the shift to short hours was much more pronounced. In public administration, for example, a 10-point drop in standard hours was paired with a matching rise in short hours; long hours were unchanged. In educational services, the 9-point decline in standard hours was paired with a similar rise in short hours.

Finally, in management and administrative support, a 3-point dip in standard hours and a 2-point drop in long hours meant a 5-point increase in short hours.

	1989			1998			1989-98 change		
	0-34	35-40	41+	0-34	35-40	41+	0-34	35-40	41+
	%			%					
All industries	31.2	48.2	20.5	38.3	41.2	20.6	7.1	-7.0	0.1
Agriculture	38.8	24.2	37.0	36.9	27.3	35.7	-1.9	3.1	-1.3
Primary industries	18.3	48.8	32.9	22.9	38.3	38.8	4.6	-10.5	5.9
Utilities	18.0	64.8	17.2	27.4	50.6	22.0	9.4	-14.2	4.8
Construction	20.9	51.7	27.4	26.6	44.0	29.5	5.7	-7.7	2.1
Manufacturing	17.2	57.8	25.0	22.4	50.0	27.6	5.2	-7.8	2.6
Trade	38.6	42.4	19.0	44.7	37.3	18.0	6.1	-5.1	-1.0
Transportation and warehousing	26.0	47.2	26.8	31.2	39.9	28.9	5.2	-7.3	2.1
Finance, insurance and real estate	26.9	53.4	19.7	35.5	46.0	18.5	8.6	-7.4	-1.2
Professional, scientific and technical services	23.8	52.0	24.2	30.1	46.2	23.7	6.3	-5.8	-0.5
Management and administrative support	34.6	46.0	19.3	39.4	43.1	17.5	4.8	-2.9	-1.8
Educational services	39.7	38.9	21.4	48.5	30.2	21.3	8.8	-8.7	-0.1
Health care and social assistance	44.5	46.2	9.3	51.5	39.1	9.4	7.0	-7.1	0.1
Information, culture and recreation	32.8	47.9	19.3	39.9	41.8	18.3	7.1	-6.1	-1.0
Accommodation and food services	52.1	33.3	14.6	58.7	28.8	12.6	6.6	-4.5	-2.0
Other services	33.5	43.9	22.6	38.1	40.8	21.1	4.6	-3.1	-1.5
Public administration	26.4	57.9	15.7	36.4	48.0	15.6	10.0	-9.9	-0.1

Source: Labour Force Survey

Actual hours worked by occupation, 1989-1998

Actual hours of work also vary according to occupation.³ Managers worked the longest hours in 1998. Those in sales and service jobs, and attendants, helpers and other service workers put in the shortest hours.

Among managers, long hours are common: in 1998, 38% worked more than 40 hours per week, with 14% putting in between 49 and 59 hours, and another 8% working 60 or more. Short hours were relatively rare for this group: 22% worked less than 35 hours.

For professionals, too, long hours are a fact of life: in 1998, nearly one-quarter worked more than 40 hours per week. They were less likely than managers to work very long hours, however: just 4% worked 60 or more. Short hours were also more common for this group than for managers: 38% worked less than 35 hours per week.

On the other hand, 61% of attendants, helpers and other service workers, and 48% of those working in

sales and service jobs, worked less than 35 hours per week. Just 8% of the former and 16% of the latter worked more than 40 hours per week.

Between 1989 and 1998, a decline in the standard work week occurred in *every* occupational group, along with a rise in work weeks less than 35 hours. In fact, the decline in standard hours was most often accounted for by a rise in short hours – and in some cases, even slight drops in long hours.

The decline in standard hours was greatest in administrative occupations (9 points), matched by a rise in short hours. For workers in technical occupations, a 7-point drop in standard hours (and a one-point decrease in long hours) was accompanied by an 8-point increase in short hours. Finally, the standard work week dipped by 7 points among trades and production workers, while short hours rose 6 points, and long hours rose 2 points.

	1989			1998			1989-98 change		
	0-34	35-40	41+	0-34	35-40	41+	0-34	35-40	41+
	%			%					
All occupations	31.2	48.2	20.5	38.3	41.2	20.6	7.1	-7.0	0.1
Managerial	16.2	45.6	38.3	22.1	39.6	38.3	5.9	-6.0	-
Professional	31.4	44.9	23.7	37.7	39.0	23.3	6.3	-5.9	-0.4
Technical	34.9	49.4	15.7	42.8	42.3	14.9	7.9	-7.1	-0.8
Trades and production	19.7	53.3	27.0	25.4	46.1	28.5	5.7	-7.2	1.5
Administrative	31.9	56.6	11.5	40.6	48.1	11.3	8.7	-8.5	-0.2
Sales and service	41.6	39.9	18.5	48.3	35.3	16.5	6.7	-4.6	-2.0
Attendants, helpers and other service workers	54.5	36.4	9.0	61.2	31.1	7.8	6.7	-5.3	-1.2

Source: Labour Force Survey

Paid and unpaid overtime hours by sex, 1998

In 1998, 8% of workers put in paid overtime, and 10% worked unpaid overtime. Just under a million Canadians put in an average 8.7 paid overtime hours per week, and another one million worked an average 9.5 unpaid overtime hours. Unpaid overtimers were more likely to work longer hours: 4% worked 10 or more extra hours in 1998, compared with 3% of paid overtimers.

Men were more likely than women to work paid overtime: 11% versus 6%. And more than twice as

many men as women worked 5 hours or more paid overtime a week (8% versus 3%).

Men also work longer unpaid overtime hours than women. In 1998, 10% of men and women clocked overtime hours for which they were not paid. Women were most likely to work under 5 such hours (3.4%, compared with 2.4% of men), and least likely to work 15 hours or more of unpaid overtime (1.7% versus 2.5%). Roughly equal percentages of men and women worked between 5 and 9 unpaid overtime hours.

	Paid			Unpaid		
	Both sexes	Men	Women	Both sexes	Men	Women
	%			%		
Overtime hours						
None	91.2	88.6	94.1	89.9	89.6	90.3
Less than 5	2.9	3.2	2.4	2.9	2.4	3.4
5 to 9	3.0	4.0	2.0	2.8	2.9	2.7
10 to 14	1.5	2.1	0.7	2.2	2.5	1.9
15 and over	1.4	2.1	0.7	2.2	2.5	1.7
<i>Source: Labour Force Survey</i>						

Paid and unpaid overtime hours by industry, 1998

Paid overtime hours are more common in certain industries. Nearly 13% of those in utilities, 12% in manufacturing, 12% in primary industries, and 10% in construction worked 5 hours or more of paid overtime in 1998. On the other hand, only 3% of those in educational services worked any paid overtime.

Unpaid overtime, too, is tied to the industry in which people work. Some 25% of those in educational services, 13% in professional, scientific and technical services, 10% in finance, insurance and real estate, and 8% in information, culture and recreation worked unpaid overtime of 5 or more hours a week in 1998.

	Paid overtime hours					Unpaid overtime hours				
	0	1-4	5-9	10-14	15+	0	1-4	5-9	10-14	15+
	%									
All industries	91.2	2.9	3.0	1.5	1.4	89.9	2.9	2.8	2.2	2.2
Agriculture	95.1	1.6	1.0	1.0	1.4	96.3	0.9	1.2	0.9	0.8
Primary industries	85.5	2.9	4.0	3.2	4.5	91.4	2.5	2.5	1.9	1.7
Utilities	83.3	3.8	5.5	3.2	4.2	89.9	3.1	3.2	2.1	1.7
Construction	87.5	2.9	3.8	2.7	3.1	94.9	1.6	1.3	1.1	1.1
Manufacturing	83.4	4.6	6.6	2.9	2.5	92.8	1.9	2.2	1.7	1.5
Trade	93.5	2.5	2.3	1.0	0.8	92.6	2.4	2.1	1.5	1.4
Transportation and warehousing	88.1	3.9	3.6	2.0	2.4	93.7	1.7	1.9	1.3	1.4
Finance, insurance and real estate	94.5	2.1	1.9	0.8	0.6	84.8	4.7	4.6	3.3	2.5
Professional, scientific and technical services	91.9	2.7	2.7	1.5	1.3	82.6	4.4	5.1	4.2	3.8
Management and administrative support	93.0	2.3	2.3	1.1	1.2	94.1	1.9	1.7	1.0	1.2
Educational services	97.5	1.0	0.9	0.3	0.4	70.7	4.4	7.2	8.0	9.7
Health care and social assistance	93.8	2.8	1.9	0.7	0.8	91.9	3.9	2.0	1.2	1.1
Information, culture and recreation	92.1	2.9	2.4	1.3	1.3	88.6	3.2	3.3	2.7	2.2
Accommodation and food services	94.9	2.0	1.8	0.7	0.7	96.1	1.4	0.9	0.9	0.7
Other services	93.5	2.4	2.1	1.1	0.9	91.7	2.6	2.1	1.6	1.9
Public administration	92.1	2.7	2.4	1.2	1.5	87.0	4.9	4.0	2.2	1.9

Source: Labour Force Survey

Paid and unpaid overtime hours by occupation, 1998

Trades and production workers put in the most paid overtime in 1998: 16% worked overtime, with 6% working 10 or more hours paid overtime. Some 9% of technical workers and 7% of those in administrative occupations worked paid overtime. Managers (5%) and professionals (6%) were the least likely to do so.

When unpaid overtime is considered, however, the story changes dramatically: 29% of managers and 23% of professionals worked unpaid overtime in 1998. Among managers, 8% put in 15 or more hours of unpaid overtime per week, and 8% worked 10 to 14 hours extra. Among professionals, 6% worked 15 or more unpaid overtime hours, and another 6% worked between 10 and 14.

Among occupational groups, managers were the most affected by overtime. With overtime excluded, the proportion working long hours dropped 21 points

(from 38% to 17%), while the proportion working standard hours rose 18 points (from 40% to 58%). Among professionals, the proportion working long hours dropped 15 points (from 23% to 8%) and that putting in standard hours rose 11 points (from 39% to 50%).

Conversely, less than 3% of trades and production workers and a similar proportion of attendants, helpers and other service workers put in any unpaid overtime in 1998. Not surprisingly, overtime has little effect on hours of work for the latter. Minus overtime, standard hours for this group increase just 2 points (from 31% to 33%) and short hours, one point (from 61% to 62%). But among trades and production workers, who are the most likely to work paid overtime, the removal of overtime hours results in a 12-point drop in long hours (from 29% to 17%), and a 10-point rise in standard hours (from 46% to 56%).

	Paid overtime hours					Unpaid overtime hours				
	0	1-4	5-9	10-14	15+	0	1-4	5-9	10-14	15+
	%									
All occupations	91.2	2.9	3.0	1.5	1.4	89.9	2.9	2.8	2.2	2.2
Managerial	95.4	1.3	1.6	0.9	0.8	71.4	5.4	7.9	7.6	7.7
Professional	94.1	2.0	2.0	1.0	1.0	76.6	5.2	6.3	5.8	6.1
Technical	90.8	3.3	3.0	1.4	1.5	91.3	3.6	2.5	1.3	1.4
Trades and production	83.8	4.4	5.8	3.0	3.0	97.4	1.0	0.7	0.5	0.4
Administrative	93.0	3.1	2.2	1.0	0.8	91.6	3.7	2.5	1.3	0.9
Sales and service	93.9	2.1	2.1	1.0	0.9	93.7	2.3	1.8	1.2	1.0
Attendants, helpers and other service workers	94.9	2.0	1.8	0.6	0.7	97.4	1.3	0.6	0.4	0.3

Source: Labour Force Survey

Actual hours worked in Canada and the United States, 1980-1998

Between 1980 and 1998, standard hours declined 8 points in Canada and 9 points in the United States. Forty-five percent of Canadians and 43% of Americans worked standard hours in 1998, down from around 53% and 52%, respectively, in 1980.⁴

In general, Canadians are more likely to work short hours and Americans, long hours. In 1998, for example, 33% of Canadians worked short hours and 26% of Americans did so. On the other hand, 22% of Canadians and 31% of Americans put in long work weeks. These differences have widened with time. In 1980, the difference in the proportion working long hours was 5 points; by 1989, the difference had grown to 7 points. By 1998, the difference was 9 points. The gap at the short-hours end of the spectrum increased from 3 points in 1980 to 7 points in 1998.

	1980		1989		1998	
	Canada	U.S.	Canada	U.S.	Canada	U.S.
	%					
Hours						
1 to 34	28.1	24.6	25.8	22.8	32.9	25.8
35 to 40	53.2	52.1	52.0	48.0	44.8	43.3
41 and over	18.7	23.3	22.1	29.2	22.3	31.0

Sources: Labour Force Survey; U.S. Current Population Survey

Between 1989 and 1998, the United States saw gains of almost 2 points in long hours and 3 points in short hours, and a decline of 5 points in standard hours. In comparison, Canada's 7-point drop in standard hours was almost entirely explained by a gain in short hours.

Perspectives

Notes

1 Industry groupings are based on the new North American Industrial Classification System (NAICS). The NAICS codes are substantially different from the old SIC codes, so the two systems are not comparable.

2 More than in any other industry, the distribution of work hours in agriculture is clustered in short and long actual hours. This study includes only employees, while many farmers are owner-operators (who are therefore excluded). Included are farmhands, employees of corporate-owned farms, and short-term workers like fruit-pickers, whose hours tend to cluster at the short and long poles (short hours in times of low activity or demand, and long hours during harvests and other peak activity periods). In 1989, 37% of agricultural workers put in long hours, and a further 39% put in short hours. In 1998, 36% worked long hours, with another 37% working short hours.

3 Occupational groupings are based on the 1991 Standard Occupational Classification (SOC), which is not comparable with the 1980 SOC.

4 American data are annual averages from the Current Population Survey, in which short hours refer to 1-to-34.9 hours. Canadian figures have, therefore, been adjusted to exclude employees reporting 0 hours. These workers are included in the short hours figures cited in the rest of the paper.

Reference

Sheridan, M., D. Sunter and B. Diverty. "The changing work-week: Trends in weekly hours of work in Canada, 1976-1995." *The Labour Force* (Statistics Canada, Catalogue no. 71-001-XPB) 52, no. 6 (June 1996): C-2 - C-31.

Literacy in the workplace

Harvey Krahn and Graham S. Lowe

The ability to read, write and use numerical information is crucial for labour market success and social well-being. Inadequate literacy skills reduce employment prospects and limit participation in society (Power, 1983; CERI, 1992; OECD and Statistics Canada, 1995). Also, countries with highly literate populations are expected to be more competitive. The argument goes that success in today's global economy requires skilled workers capable of continually learning and adapting to change (OECD and Statistics Canada, 1995; Statistics Canada, 1996; Clark, 1996). Thus, literacy is central to discussions about human resource development and skills use at the individual, workplace and national levels.

This article examines the "fit" or "mismatch" between the job requirements of Canadian workers and their literacy skills, profiling patterns of literacy use and under-use in the labour market. The study uses the Canadian component of the International Adult Literacy Survey (IALS) to measure three types of literacy (prose, document and quantitative) (see *Data source and definitions*).¹

Initial IALS findings underscore the importance of literacy for individual economic success: large income "penalties" and "bonuses" exist for low and high literacy levels, respectively, in Canada and the United States (Statistics Canada, 1996). But the IALS results also hint at possible under-use of literacy skills. For example, international comparisons suggest that some Canadian workers – notably those in skilled craft occupations – have fewer opportunities to use their literacy skills on the job (Statistics Canada, 1996;

Data source and definitions

The International Adult Literacy Survey (IALS) was a seven-country (Canada, Germany, the Netherlands, Poland, Sweden, Switzerland and the United States) cross-sectional research initiative conducted in the autumn of 1994. Its goal was to create comparable national literacy profiles, by testing literacy proficiency with sophisticated measurement techniques using "real-world" materials. More detail on the study design and measurement techniques can be found in OECD and Statistics Canada (1995) and Statistics Canada (1996).

The IALS measured proficiency in three distinct literacy domains (Table 1):

Prose literacy – the knowledge and skills needed to understand and use information from texts including editorials, news stories, poems and fiction;

Document literacy – the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and graphics; and

Quantitative literacy – the knowledge and skills required to apply arithmetic operations, either alone or sequentially, to numbers embedded in printed materials, such as balancing a chequebook, figuring out a tip, completing an order form or determining the amount of interest on a loan using an advertisement.

Crompton, 1996). This study focuses on the issue of literacy under-use, arguing that it has serious implications in an economic environment that increasingly rewards skills acquisition and lifelong learning.

The analysis was guided, among others, by the following question: to what extent do Canadian workers use their literacy skills on the job? That is, what is the fit or mismatch between workers' literacy skills and their literacy needs in the workplace?

Although the term "underemployment" is sometimes used to indicate insufficient hours or weeks of work, it also aptly describes the under-use of skills

Adapted from Literacy Utilization in Canadian Workplaces, published by Statistics Canada (Catalogue no. 89-552-MPE, no. 4) and Human Resources Development Canada. Harvey Krahn is with the Department of Sociology at the University of Alberta. He can be reached at (780) 433-1644 or hkrahn@gpu.srv.ualberta.ca. Graham S. Lowe is with Canadian Policy Research Networks. He can be reached at (780) 492-0487 or graham.lowe@ualberta.ca.

(Redpath, 1994; Statistics Canada, 1997). This form of underemployment – a *literacy surplus* problem – is as much a concern as the *literacy deficit* problem (inadequate levels of literacy among workers) that has captured public attention in the past decade. Both problems should be addressed within the same fit-mismatch framework. At one end of the continuum are workers whose literacy skills fall well below the minimum requirements in most jobs. At the other end are the highly literate employed in jobs that frequently underuse their skills. In the first case, potential human resources are not being developed. In the second, the human capital available is not being optimally used. As a result, some of it may be lost (Krahn, 1997).

Thus, it is essential to focus not only on persons with skill deficits but also on persons whose skills surpass the requirements of the job. For workers with moderate or high levels of literacy, the long-term effect of working under such circumstances could be loss of skills. For workers with low literacy levels, an unchallenging work environment could reduce the likelihood of their developing literacy skills either on or off the job.

Literacy fit and mismatch in the workplace

To what extent do employed Canadians use their literacy skills at work? Defining optimal use of a society's human capital (in this study indexed by literacy skills) is difficult, because sometimes workers change jobs or jobs change in their skill requirements. All the same, a better fit would be preferred over a poor fit (see *Constructing measures of literacy fit and mismatch in the workplace*). Ideally, public policy coupled with market

Constructing measures of literacy fit and mismatch in the workplace

A reading-writing index and a numeracy index were used to measure the fit or mismatch between workers' literacy skills and their job requirements. Both indices range from 1.0 to 5.0, because they were based on responses (numbered one to five) to the IALS questions. The values for each workplace requirement index were collapsed into four categories (1.0 to 1.99 = 1; 2.0 to 2.99 = 2; 3.0 to 3.99 = 3; 4.0 to 5.0 = 4) that reflected the range of categories ("rarely-never" to "every day") concerning workplace literacy requirements, with higher values indicating more frequent reading-writing or mathematical requirements.

These four-category measures were then cross-tabulated by the literacy (also four levels; Table 1) of employed sample members. Specifically, the distributions of prose literacy and document literacy were cross-tabulated by the reading-writing requirements measure (Tables 2 and 3, respectively), and quantitative literacy was cross-tabulated by the numeracy requirements measure (Table 4). For each literacy dimension examined in the IALS, five combinations were possible, given the construction of the two measures: low literacy skills and low literacy requirements in the workplace; medium literacy skills and medium literacy requirements; high literacy skills and high literacy requirements; low literacy skills and high literacy requirements (a literacy deficit); high literacy skills and low literacy requirements (a literacy surplus). Workers whose literacy skills roughly fit their job requirements (low-low, medium-medium and high-high) appear from top left to bottom right of the relevant table.

The tables also show the number who were mismatched; that is, those who exhibited either a literacy deficit (the upper right corner of the table) or a literacy surplus (the lower left corner of the table). The latter might also be described as "underemployed" in terms of their literacy skills. The deficit category includes workers whose measured literacy ability was at least two categories below the literacy requirement of their job. In contrast, those whose measured literacy ability was at least two categories above the literacy requirement of their job exhibited a surplus.

Table 1: Levels of prose, document and quantitative literacy, workers 16 and over

	Employed population		
	Prose literacy	Document literacy	Quantitative literacy
	%		
All levels	100	100	100
Level 1	12	12	12
Level 2	25	24	25
Level 3	37	35	36
Level 4/5	26	29	27
Mean*	287	291	292

Source: International Adult Literacy Survey, 1994

* Measured on a possible range of 0 to 500.

incentives would induce employers to increase workplace literacy requirements (that is, to create more knowledge-based jobs), and to encourage employees with lower literacy skills to upgrade through further education and training.

Regarding prose literacy and reading-writing requirements in 1994, about 2 million workers with low literacy skills were in jobs that presented them with

few literacy requirements (Table 2). Close to 4 million had medium-level skills and were employed in jobs with mid-range requirements. Half of all workers with Level 2 prose literacy were in this situation, as were 55% of those in the next highest level. About 2.5 million Canadians with high literacy skills were in jobs requiring a high degree of prose literacy.

Some 21% of those with Level 3 prose skills were in jobs with low workplace reading-writing requirements (Table 2; Chart A). Fully half of those with the highest prose literacy scores (Level 4/5) were in the surplus category. Thus, in absolute numbers, about 2.5 million Canadians were in jobs that did not appear to take full advantage of their prose literacy skills. Literacy deficits reflect the other possible form of mismatch. However, with respect to prose literacy, this problem is not as widespread. In 1994, about 700,000 workers were in jobs with reading-writing demands that appeared to exceed their skills,² including 19% of those at Level 1 in prose literacy and 16% of those at Level 2 (Table 2; Chart B).

Regarding document literacy surplus, 23% of employed Canadians in Level 3 and 43% in Level 4/5 occupied jobs with low literacy requirements (Table 3; Chart A). Combined, this represents about 2.5 million individuals in jobs that did not seem to require their level of skill, a total similar to that observed for prose literacy. The pattern of document literacy deficit also paralleled the prose pattern, with around 15% in each of Levels 1 and 2 holding jobs that required literacy skills two or more levels higher (more than 600,000 in total).

Table 2: Prose literacy fit-mismatch in the workplace

Workplace reading-writing requirements (%)					
Population estimates ('000)					
	1 (low)	2	3	4/5 (high)	Total
Prose literacy level					
1 (low)	64 839	17 221	12 162	7 85	100 1,307
2	34 993	31 924	19 572	16 469	100 2,958
3	21 931	26 1,150	29 1,279	24 1,039	100 4,399
4/5 (high)	10 304	41 1,283	30 917	19 598	100 3,102
Total	3,067	3,578	2,930	2,191	11,766

Source: International Adult Literacy Survey, 1994

Key to shading:

Low skills – low requirements

Medium skills – medium requirements

High skills – high requirements

Low skills – high requirements (literacy deficit)

High skills – low requirements (literacy surplus)

Fit between
skills and
requirements

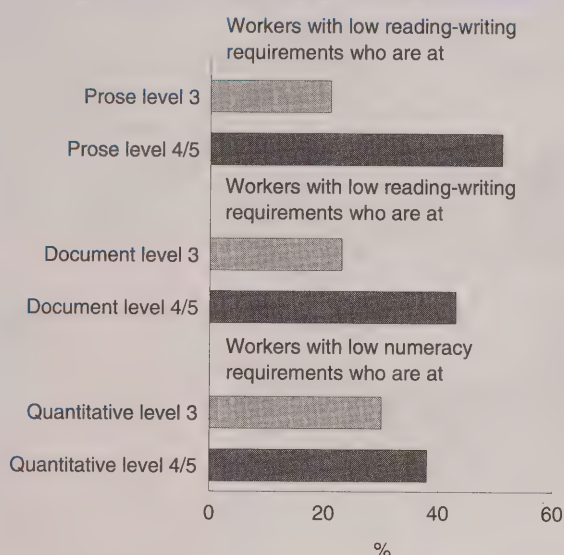
Mismatch between
skills and
requirements

Patterns of quantitative literacy versus workplace numeracy requirements were somewhat different (Table 4). The low skill-low requirement group was somewhat smaller (about 1.7 million) than those in the other scales (or domains), as was the medium-medium group. The latter included 43% of the employed with Level 2 quantitative skills and 35% of those in Level 3 (about 2.8 million people in total). In turn, the group in the skill surplus category was proportionally larger for those in Level 3 (30%), but somewhat smaller for Level 4/5 (38%; Chart A). Still, the absolute size of this group

was similar, at around 2.5 million. In contrast, the group defined as having skill deficits (about 1.3 million; Chart B) and workers in the high skill-high requirement fit category (almost 3.5 million) represented larger proportions of the total employed labour force in 1994.

The proportions of Canadians employed in both medium-medium and high-high fit situations were larger for all three types of literacy than the proportion in low-low fit settings (Table 5). In fact, for quantitative literacy, the high-high category was the largest. Assuming that a high-skill economy

Chart A: Fully half of employed persons with high prose literacy scores had jobs with low reading-writing requirements.



Source: International Adult Literacy Survey, 1994

Note: Workers with a skill surplus had job requirements two levels lower than their literacy scores (see lower left of Tables 2, 3 and 4).

(referring both to workers and their jobs) is preferable to lower-skill alternatives, these are encouraging results.

But the finding that more than one in five workers were in jobs that did not appear to make full use of their literacy skills is troubling, particularly because public discussions of the "skills gap" in the labour force frequently imply that the problem is one of a shortage of skilled workers, not skilled jobs.³ The 5% to 11% placed in the skill deficit category are also cause for concern, but for different reasons (that is, they may not be capable of performing their jobs adequately). Even if the measures of fit and mismatch were calculated differently, thus raising or lowering the proportions in the surplus and deficit categories, questions would remain about the relatively poor fit between workers' literacy skills and their jobs.

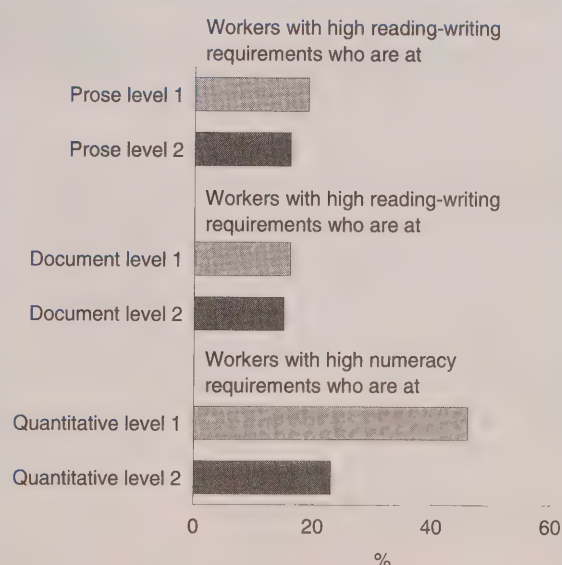
Interpreting the results

Although more Canadians are employed in settings roughly compatible with their literacy skills, a good many are not well-matched to their job requirements.

Within the mismatch categories, a greater proportion experience a skill surplus (or underemployment) than a skill deficit (insufficient literacy skills for one's job).

The IALS prose, document and quantitative literacy scales have proved to be highly useful for examining literacy fit and mismatch in the Canadian workplace. Yet it is also true that other skills influence success in the workplace. Informal or working knowledge, as well as the tacit skills that many workers acquire while working and interacting with co-workers, is equally important (Harper, 1987; Collins, Balmuth and Jean, 1989; Damon, 1991). In fact, adults who do not read well sometimes develop surprisingly sophisticated methods of coping with their literacy handicap (Fingeret, 1990; Gowen, 1994). Moreover, the absence of "hard" literacy skills does not necessarily mean a lack of "soft" teamwork and oral communication skills.⁴ Hence, it must be remembered that only one, albeit important, dimension of the workplace skills equation is examined here. Workplace literacy requirements and workplace skills may need to be

Chart B: More than 40% of employed persons with low quantitative literacy had jobs with high numeracy requirements.



Source: International Adult Literacy Survey, 1994

Note: Workers with a skill deficit had job requirements two levels higher than their literacy scores (see upper right of Tables 2, 3 and 4).

Table 3: Document literacy fit-mismatch in the workplace

Workplace reading-writing requirements (%)					
Population estimates ('000)					
	1 (low)	2	3	4/5 (high)	Total
Document literacy level					
1 (low)	62 846	22 293	8 111	8 102	100 1,352
2	31 872	31 869	23 657	15 422	100 2,820
3	23 859	32 1,302	26 1,067	19 782	100 4,110
4/5 (high)	11 390	32 1,115	32 1,095	25 885	100 3,485
Total	3,067	3,579	2,930	2,191	11,767

Source: International Adult Literacy Survey, 1994

Key to shading:

Low skills – low requirements

Medium skills – medium requirements

High skills – high requirements

Low skills – high requirements (literacy deficit)

High skills – low requirements (literacy surplus)

Fit between
skills and
requirements

Mismatch between
skills and
requirements

defined and measured more generally in the future.

Reading letters and memorandums is the most common literacy requirement, reported by more than half of all workers as a daily activity. A sizeable minority (about 30% to 40% in 1994) also engaged daily in various other reading, writing and mathematical activities. Yet, depending on the specific task, between 20% and 60% of workers rarely or never used these literacy skills. Certainly, not all these tasks are required in jobs that otherwise might be considered skilled and intellectually demanding. Oral communication of complex information – the stock-in-trade of

customer helplines, call centres and telephone financial services – exemplifies a form of skilled work that may have only moderate or low literacy requirements by IALS standards.

Within the IALS definition of literacy, a useful contrast can be made between quantitative literacy and prose and document literacy. As this analysis reveals, large numbers of jobs require only one type of skill. The patterns of fit and mismatch vary among the three. Since quantitative literacy is the strongest correlate of income in North America (Statistics Canada, 1996), it is tempting to conclude that most human resource development

efforts should be targeted here. However, the social and economic benefits of prose and document literacy are not as easily established with a measure such as income. The ability to read and write improves one's quality of life in other ways. Furthermore, many non-work activities reinforce prose literacy, especially in contrast to the more restricted, workplace setting in which numerical skills are more likely used.

Implications of the findings

The distribution of on-the-job literacy requirements across occupations is polarized, consistent with other job rewards (for example, income, benefits, status and training opportunities). Thus, managers have more challenging jobs in all three literacy dimensions, and professionals have high reading and writing demands. Other occupations have substantially lower literacy requirements. "Good jobs" as defined by full-time and permanent status (Economic Council of Canada, 1990) also offer more challenging work environments.

This analysis finds a reasonable fit between literacy skills and job requirements for about three-quarters of the labour force. This fit is not surprising, since workers with higher skills might be expected, in time, to find their way into (or be recruited into) jobs that require such skills, whereas those with few skills would not move up. Within the literacy fit category, however, are large proportions of workers in low-low and medium-medium positions. Assuming the goal is to compete with other nations for the best jobs, both in terms of national productivity and personal rewards for workers, the challenge will be to shift more

Table 4: Quantitative literacy fit-mismatch in the workplace

	Workplace numeracy requirements (%) Population estimates ('000)				Total
	1 (low)	2	3	4/5 (high)	
Quantitative literacy level					
1 (low)	44 571	10 130	31 394	15 196	100 1,291
2	34 1,020	10 284	33 990	23 698	100 2,992
3	30 1,263	8 328	27 1,185	35 1,501	100 4,277
4/5 (high)	16 520	22 721	28 904	34 1,092	100 3,237
Total	3,374	1,463	3,473	3,487	11,797

Source: International Adult Literacy Survey, 1994

Key to shading:

Low skills – low requirements

Medium skills – medium requirements

High skills – high requirements

Low skills – high requirements (literacy deficit)

High skills – low requirements (literacy surplus)

Fit between
skills and
requirements

Mismatch between
skills and
requirements

might be expected to have roughly similar proportions of workers in the surplus and deficit categories. But the findings show that the former outnumber those in the deficit category by a ratio of about two-to-one for quantitative literacy, three-to-one for prose literacy, and four-to-one for document literacy. These ratios depend, in part, on the way literacy requirements are measured and cutting-points determined, although the basic pattern remains.

Previous discussions of the job-skills gap have focused mainly on the problem of workers with literacy deficits. Yet in terms of the costs to individuals, firms and the national economy, underemployment is more widespread, as indicated by the proportion of workers in this category. Of even greater concern is the potential loss of some of these workers' skills or, in a broader sense, of previous investments in human capital (Krahn, 1997).

Perspectives

workers into the high-high category (Krahn, 1997). Given the definition of "best jobs," this shift will require an investment in human capital (that is, literacy skills) and a creation of jobs with higher literacy requirements. The latter appears to have the greater need, as the labour force already includes several million workers who seem to be employed in jobs that do not take full advantage of their literacy skills.

A theoretical explanation of the size of the mismatched group (about one in four workers, whether in literacy deficit or literacy surplus) is not immediately apparent. A mismatch of this size suggests that the labour market is not sufficiently self-correcting. Furthermore, a labour market approaching equilibrium

Table 5: Worker/workplace literacy fit-mismatch

	Fit			Mismatch	
	Low-low	Medium-medium	High-high	Low-high (deficit)	High-low (surplus)
	%				
Literacy domain					
Prose	17	34	22	6	21
Document	17	33	24	5	21
Quantitative	15	24	29	11	21

Source: International Adult Literacy Survey, 1994
See Tables 2, 3 and 4 for details on the three fit and two mismatch categories.

■ Notes

1 For further discussion of the IALS and some of its findings, see OECD and Statistics Canada (1995); Statistics Canada (1996); Hardwick (1996); Clark (1996); Crompton (1996); Krahn (1997); Willms (1997); and Bloom et al. (1997).

2 IALS measured generic skills. These workers could, through practice, cope but are deemed to lack skills necessary to deal with equally difficult tasks drawn from unfamiliar contexts.

3 Daniel Boothby drew similar conclusions from his analysis of data from the 1989 Literacy Skills Used in Daily Activities (LSUDA), but suggested that 3.5 million Canadians with "relatively high levels of reading ability ... [were] working in jobs which made little, if any, call on these skills" (Boothby, 1993, 33). Direct comparisons between his count and this study's are not possible, however, because different measures of workplace literacy requirements were used. This study relied on workers' own assessments of reading, writing and mathematical requirements in their jobs, while Boothby classified occupations according to their typical educational requirements, using General Educational Development (GED) scores.

4 In fact, the coping strategies employed by some less-literate workers indicate strong teamwork and oral communication skills. Nevertheless, these workers will not be able to take their informally acquired tacit knowledge and apply it elsewhere as easily as could individuals with formally acquired reading, writing and numeracy skills (Damon, 1991).

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What's new?

Recent reports and studies

■ JUST RELEASED

■ *Public sector employment, 1998*

Employment in the public sector began to stabilize in 1998 after average declines of 1.8% in the previous five years. The public sector employed just under 2.8 million people last year, down a marginal 0.6% from 1997. The decline of about 15,400 jobs was the smallest since 1993. In contrast, the public sector work force fell by approximately 88,000 in 1996 and 70,000 in 1997.

Among the provinces, Quebec and Ontario registered the largest declines in public sector employment in 1998. Ontario had 949,400 such employees, down 3,400 (0.5%) from 1997, while Quebec had 717,500, down 13,400 (1.8%). Public sector employment increased the most in Alberta, by 1,600 (0.6%).

The decline in public sector employment in 1998 occurred for the most part in all three levels of government, which employed 2.5 million people, 0.6% less than in 1997. Employment in government business enterprises, a major component of the public sector, remained virtually unchanged, however, with 257,700 employees.

The federal government work force experienced the largest drop (about 47% of the total decline). It numbered 331,100 people (including military) in 1998, down 2.0% or 6,900 from 1997. The provincial/territorial work force declined by about 6,100 employees to 1.3 million. Hospitals in Ontario and Quebec, as well as general administration in Ontario, accounted for most

of the decline. The local government work force fell by about 1,700 to 889,800. Declines were highest in Quebec and British Columbia. Ontario experienced the greatest increase in local government workers.

Overall, wages and salaries paid to employees in the public sector increased for the first time in five years in 1998. Public sector employees received \$101.6 billion in wages and salaries last year, up 0.6% from 1997. Governments' total outlay on wages and salaries was \$90.5 billion, about 90% of the public sector total. The federal government paid out \$14.4 billion, \$116 million more than in 1997. Provinces and territories paid \$43.2 billion, an increase of \$370 million. Most of this increase went to health and social services.

Total wages and salaries for municipal governments were \$33.0 billion in 1998. Although total remuneration changed little, wages and salaries paid by school boards increased \$351 million. Those paid for municipal administration decreased by \$258 million.

The annual publication *Public Sector Employment and Wages and Salaries, 1996* (Catalogue no. 72-209-XPB, \$44) is now available. Data are also available through custom tabulation. For information or for general enquiries on the Public Institutions Division's products and services, contact Viola Jabbour at (613) 951-0767 or jabbvio@statcan.ca.

For further information, or to enquire about concepts, methods or data quality, contact Robert Sauvé, Public Institutions Division, at (613) 951-8306; fax: (613) 951-0661; e-mail: sauvrbt@statcan.ca.

■ *Latest on the labour force*

With the advent of the North American Free Trade Agreement (NAFTA), a common industrial classification system was needed to facilitate the analysis of economic trends between countries. The Labour Force Survey (LFS) is one of the first programs at Statistics Canada to release data under this new classification system, the North American Industrial Classification System (NAICS). A recent issue of *Labour Force Update* looks at the new industry groups, profiling employment and analyzing trends by industry.

The LFS also recently began classifying occupations according to the 1991 Standard Occupational Classification System (SOC), which replaced the SOC 80. In the second section of the publication, these new occupations are profiled and their trends compared. Following are highlights:

- In 1998, almost one-third of workers had a job or business in just two industries – trade and manufacturing. Of over 14 million employed people in 1998, more than 2 million worked in each of these industries. Employment growth in each has been slow over the decade.
- Instead, job growth occurred elsewhere, most significantly in professional, scientific and technical services (up 61% since 1989) and in management and administrative and support services (54%). Two-thirds of the growth in the former came from computer systems design services and consulting services.
- One-quarter of all workers, or 3.6 million people, had a sales or service job in 1998. This large group includes retail salespersons, cashiers, waiters and waitresses, childcare workers, police and firefighters. In terms of absolute change, sales and service jobs increased more than any other occupational group. Because workers in these occupations had the lowest average hourly wage, and many worked relatively few hours, they also had the lowest weekly earnings.
- Job growth was also strong in natural and applied science occupations, the best-paid occupational group. So far this decade, the number of workers in this group has jumped by one-third. Most of this increase came in 1997 and 1998 as demand for computer systems analysts and programmers skyrocketed.
- In Ottawa-Hull, the percentage of workers engaged in natural and applied science jobs (11%) was nearly double the national average – a reflection of the high concentration of large high-tech, computer-oriented firms in the area. Second was Calgary, where over 9% were in natural and applied science jobs. This strong showing may be due to a need for engineers to support the dominant oil and gas industry in the region.

The Spring 1999 issue of *Labour Force Update* (Catalogue no. 71-005-XPB, \$29), titled "Employment by industry and occupation based on new classifications," is now available. For additional information, contact Jeannine Usalcas at (613) 951-4720; fax (613) 951-2869; e-mail: usaljea@statcan.ca.

■ *Survey of Employment, Payrolls and Hours*

The latest version of *Annual Estimates of Employment, Earnings and Hours 1986-1998* (Catalogue no. 72F0002XDB) is now available. Data on employment, average weekly and hourly earnings, average weekly hours and total weekly payrolls for over 200 industries at the national, provincial and territorial levels are available. Also included is the Help-wanted Index 1981-1998 supplement. The following are highlights for 1998:

- Employment growth rates were highest in Yukon (7%) and Saskatchewan (4%).
- Employees in mining, quarrying and oil wells had the highest average weekly earnings (\$1,111.82), while those in accommodation, food and beverage services had the lowest (\$231.49).
- At the national level, all industries except public administration and forestry and logging experienced a rise in total weekly payrolls. Ontario recorded the largest increase over the previous year.

- The annual growth rate of average hourly earnings for employees paid by the hour was highest in Nova Scotia (6.7%), followed by Alberta (5.4%).
- Only Manitoba, Saskatchewan and British Columbia recorded an annual increase in average weekly hours for hourly paid employees.
- Manufacturing, and community, business and personal services accounted for 60% of total weekly payrolls for employees paid by the hour in Canada.

For further information on this and other products from the Survey of Employment, Payrolls and Hours, contact Client Services, Labour Statistics Division, at (613) 951-4090; fax: (613) 951-4087; e-mail: labour@statcan.ca.

■ **Article from Services Indicators**

Room utilization in the traveller accommodation industry

This article, which appeared in the fourth quarter 1998 issue of *Services Indicators*, examines seasonal fluctuations experienced by Canada's traveller accommodation industry in 1996. It then focuses on monthly variations in hotel and motel occupancy rates, according to such factors as location, establishment size and market orientation. The summary measures yielded by this study also offer useful benchmarks against which individual hotels and motels can compare their own room-utilization figures.

Services Indicators (Catalogue no. 63-016-XPB, \$35/\$116 or 63-016-XIB, \$26/\$87) is a quarterly publication that profiles Canada's service industries. It provides 34 updated tables and about 100 charts showing various service industries' output, financial, employment and remuneration figures over the past eight quarters.

For more information, contact Don Little, Services Division, at (613) 951-6739; fax: (613) 951-6696; e-mail: littdon@statcan.ca.

■ **Rural and Small Town Canada Analysis Bulletin**

Statistics Canada, in collaboration with the Rural Secretariat, Agriculture and Agri-food Canada, has released its fourth profile of trends in rural Canada.

According to this bulletin, rural and urban households spend the same share of their budget on food, clothing and shelter, although the former spend more on food and less on shelter. Distance influences rural household expenditure patterns. Rural households spend a higher share on transportation and a lower share on some services such as cablevision or the Internet, which are more difficult to access.

Rural and Urban Household Expenditure Patterns for 1996 (Catalogue no. 21-006-XIE) is available free on the Internet at www.statcan.ca.

For more information, contact Ray D. Bollman, Agriculture Division, at (613) 951-3747; fax: (613) 951-3868; e-mail: bollman@statcan.ca; or call 1 800 465-1991.

■ **WHAT'S NEW IN INCOME STATISTICS?**

■ **Household spending, 1997**

Households spent an average \$49,950 on everything from child care to travel to communications in 1997, virtually unchanged from 1996. Personal income taxes continued to make up the largest share of household spending. In 1997, an average 21 cents of every dollar went toward personal income taxes, followed by 20 cents for shelter, 12 cents for transportation and 11 cents for food. The remaining 36 cents was spent on a variety of items such as recreation, personal insurance and pension contributions, household operations, clothing, gifts and contributions to charity.

The average amount paid on personal income taxes was estimated at \$10,630, essentially unchanged from 1996 (\$10,750). In 1997, households spent an average \$9,870 on shelter costs, \$5,700 on food and \$6,200 on transportation, also virtually unchanged from the previous year.

Consistent with household income patterns, households in Ontario had the highest average spending in 1997 among the provinces, about \$55,330. This compares with \$38,450 for Newfoundland, whose households had the lowest overall spending. Yukon and the Northwest Territories had average household expenditures of \$58,560 and \$63,200, respectively.

Among selected metropolitan areas, households in Yellowknife reported the highest annual average spending (\$73,170), followed by Ottawa (\$61,530). Charlottetown-Summerside reported the lowest average spending at \$42,870.

Summary data for 1997 household spending are available free on Statistics Canada's web site (www.statcan.ca). The menu path is "Canadian statistics," "The People – Families, households and housing" and "Expenditures."

Tables (product nos. 62F0031XDB, 62F0032XDB, 62F0033XDB, 62F0034XDB, 62F0035XDB) presenting detailed expenditure data are now available for Canada, the provinces and selected metropolitan areas. Custom tabulations can also be obtained. The publication *Family Expenditures, Household Facilities and Equipment* (Catalogue no. 62F0031XPB) will be released soon.

For more information, or to order custom tabulations, or to enquire about concepts, methods or data quality, contact Client Services, Income Statistics Division at (613) 951-7355 or 1 888 297-7355; fax (613) 951-3012; e-mail: income@statcan.ca.

■ *Family incomes, 1997*

Average family income before taxes was an estimated \$57,146 in 1997, essentially unchanged from 1996 after adjusting for inflation. This was virtually the same as in 1994, the last year of significant improvement, and 4.5% below the pre-recession peak of \$59,862 in 1989.

Two-parent families had an average income of \$64,814 in 1997, similar to that of 1996. However, average income for lone-parent families headed by women increased 4.1% to \$25,445, as higher employment earnings were accompanied by increased Child Tax Benefits.

These estimates are from the final Survey of Consumer Finances (SCF), an annual supplement to the April Labour Force Survey (see **Last release of the Survey of Consumer Finances**). The sample of 35,000 households excludes those in the territories and on Indian reserves.

Total income refers to money receipts of families and individuals. Cash benefits from government programs or transfers are included in the income reported, but income tax payments to the government are not. Income before transfers refers to total income less transfers. A report on the after-tax situation of families and individuals will be released soon in *Income after Tax, Distributions by Size in Canada, 1997* (Catalogue no. 13-210-XPB, \$31).

In 1997, employment earnings accounted for 79.7% of family income, while government transfers accounted for 11.3%, investment income 3.1%, and other income such as retirement pensions, 5.9%.

The number of families increased 0.9% to 8.4 million. In a period of stagnant average weekly earnings, employment growth has been the key to maintaining average family income.

The trend of reduced transfer payments continued in 1997, particularly for employment insurance (EI) and social assistance. As a result, the proportion of family income from transfers declined for four consecutive years, from a peak of 12.9% in 1993 to 11.3% in 1997.

Higher income families lost some ground in 1997, while those in the middle and lower income groups held their own. For the 20% of families with the lowest incomes, or the lowest "quintile," average family income was unchanged at \$17,559. Higher earnings helped offset reductions in transfer payments, primarily EI benefits and social assistance. These shifts were partly a reflection of improved labour market conditions. Traditionally, this group has depended heavily

on transfers, which formed 57% of their income in 1997, down from 59% in 1996. Female lone-parent families and those headed by seniors (aged 65 and over) made up 50% of the lowest quintile.

Families in the second quintile had an average income of \$34,124, also unchanged from the previous year. While their earnings increased, their investment income declined. Transfer payments were static, as reduced EI benefits were offset by increases in other types of transfer. Two-parent families with children represented nearly one-third of this group, while one in four were seniors.

Families in the middle and fourth quintiles also experienced virtually no change in total income (\$50,258 and \$68,939, respectively). However, those in the middle quintile recorded the largest increase in earnings, up \$1,463, reflecting the growth in employment during the year.

The only families to incur a drop in total income in 1997 were those in the highest quintile, with a decline of 1.6% to \$114,846. This decline was due primarily to a \$1,043 reduction in average employment earnings.

Data on average annual income as well as low income statistics are available free on Statistics Canada's web site (www.statcan.ca), under "Canadian statistics," then "The People – Families, households and housing" and "Income."

Income Distributions by Size in Canada, 1997 (Catalogue no. 13-207-XPB, \$46) and *Low Income Persons, 1980 to 1997* (Catalogue no. 13-569-XPB, \$32) are also available. Microdata files on the 1997 incomes of economic families and of individuals aged 15 years and over, along with socioeconomic characteristics, will be released soon.

For more information about the current survey results and related products and services, or to enquire about concepts, methods or data quality, contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; e-mail: income@statcan.ca.

■ *Encountering low income, 1993 to 1996*

The latest release from the Survey of Labour and Income Dynamics (SLID) examines low income after taxes and transfers from 1993 to 1996.

Previous SLID data releases covered life events: how families change; transitions in the labour force; crossing the low income line; and moving out of low-paid work. Results from the fifth wave of SLID data are expected by autumn 1999. SLID will show labour market and family experiences covering a five-year stretch from 1993 to 1997.

Individuals were considered to have low income if their disposable family income – that is, income after federal and provincial income taxes – was below Statistics Canada's after-tax low income cut-offs (LICOs). LICOs are established using data from Statistics Canada's Family Expenditure Survey. They are the levels at which a family must spend a greater proportion of its income on the basics (food, shelter and clothing) than the average family of similar size. These cut-offs vary by family size and size of community. For example, in 1996 the after-tax LICO for a family of four in an urban area with a population of 30,000 to 99,999 was \$23,460.

Although LICOs are often referred to as poverty lines, they have no official status as such, and Statistics Canada does not recommend their use for this purpose. Further information is available in the article "On poverty and low income," on Statistics Canada's web site (www.statcan.ca), under "Concepts, definitions and methods," "Discussion papers on new surveys" and "Feature article on poverty and low income."

A popular perception is that the low income population is static, exhibiting little turnover. This view is misleading. Roughly half of all individuals who had been in low income for one year were not the following year, demonstrating substantial turnover among the low income population during the study period.

On the other hand, some people experienced low income for a long time. Of all Canadians who fell into low income in 1994 (about 4% of the population), 30% had done so for three years or more. This indicates a substantial persistence of low income in Canada.

In recent years, growing attention has been paid to children living in families with low income. Some analysts have pointed out that growing up in such a family may increase the probability of low income in adulthood. If so, these families would produce a new generation at high risk of exposure. The study showed that about one-quarter of all children under six lived in families that experienced low income for one year or more, 8% of whom had done so for four consecutive years.

Conversely, only 13% of seniors had experienced low income for one year or more between 1993 and 1996 – 5% continuously. Over the previous 15 years, the growth of income from the Canada and Quebec Pension Plans, from private pensions and from the Guaranteed Income Supplement all helped to decrease the percentage of seniors in low income.

Individuals with work limitations, lone-parent families, members of visible minorities and recent immigrants have a high risk of exposure to low income. However, they represent a small fraction of the population. Consequently, it is not surprising that they account for a relatively small share of those in low income.

To What Extent Are Canadians Exposed to Low Income: 1993-1996 (product no. 75F0002MIE, no. 99001) is available free on Statistics Canada's web site (www.statcan.ca). The menu path is "Products and services," "Research papers," "Index," "Income expenditures, pensions, assets and debts" and "...Income...".

For more information, or to enquire about concepts, methods or data quality, contact Client Services, Income Statistics Division at (613) 951-7355 or 1 888 297-7355; fax (613) 951-3012; e-mail: income@statcan.ca.

■ *Changes to SHS/FAMEX*

Until 1996, expenditure data came from the Family Expenditure Survey (FAMEX), which was conducted generally every four years. Beginning with the 1997 reference year, a new annual survey, the Survey of Household Spending (SHS), integrated much of the content of FAMEX and the Household Facilities and Equipment Survey. The SHS has a sample size 50% larger than that of FAMEX. The number of questions asked in the new survey, however, is lower. As a result, for some categories less detailed information is available.

The integration of facilities and equipment data with spending information allows for a richer data source. Housing characteristics such as the number of bedrooms, the type of heating equipment and fuel, and the presence of equipment such as computers, modems and cellular phones can now be studied with spending patterns of different household types.

Users should be cautious when making comparisons with previously released expenditure data. Revised estimates for previous years, reflecting conceptual changes, will be made available throughout 1999.

For more information about the effect of these changes on products and services, contact Client Services, Income Statistics Division at (613) 951-7355 or 1 888 297-7355; fax (613) 951-3012; e-mail: income@statcan.ca.

■ *Last release of the Survey of Consumer Finances (SCF)*

Commencing with 1998 income statistics, the Survey of Labour and Income Dynamics (SLID) will be used to produce annual cross-sectional income estimates, in addition to longitudinal labour and income data. Integration of the cross-sectional and longitudinal income statistics programs will promote consistency among income estimates, lower the cost of the income statistics program and reduce the reporting burden.

Results from SLID and the SCF have been compared to assess the differences and the effect on time-series consistency. Essentially, the two surveys tell the same story with respect to low income and income distribution. An evaluation of results for 1993 to 1996 is available in *A Comparison of the Results of the Survey of Labour and Income Dynamics (SLID) and the Survey of Consumer Finances (SCF), 1993-1996* (product no. 75F0002MIE, no. 99002, free) on the Statistics Canada web site (www.statcan.ca). The menu path is "Products and services," "Research papers," "Index," "Income, expenditures, pensions, assets and debts" and "...Income..."

For more information about these surveys and their related products and services, or to enquire about concepts, methods or data quality, contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; e-mail: income@statcan.ca.

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Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Fiona Long at (613) 951-4628; longfio@statcan.ca or Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual
Contact: Richard Vincent
(613) 951-4070

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey

Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Consumer Finances

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

*Survey of Household Spending
(replaces Household Facilities and Equipment Survey and Family Expenditure Survey)*

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General Social Survey

Education, work and retirement

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trustee Pension Funds

Frequency: Quarterly
Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

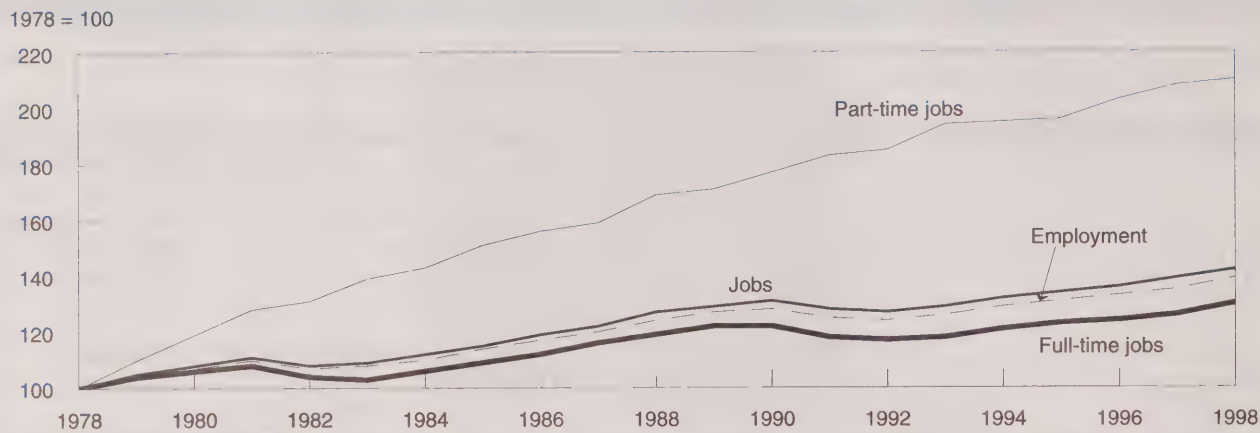
Adult Education and Training Survey

Frequency: Occasional
Contact: Steve Arrowsmith
(613) 951-0566

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

Employment and job growth

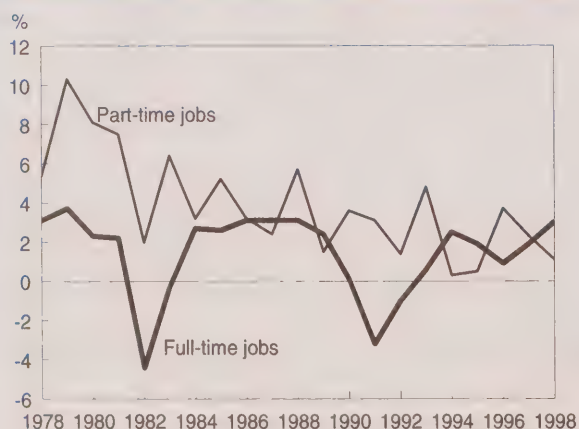


Source: Labour Force Survey

Employment. Jobs. What's the difference? Almost three-quarters of a million in 1998. Between 1978 and 1998, the number of workers in Canada climbed from 10.3 million to 14.3 million. Over the same period, the number of jobs went from 10.6 million to 15.0 million. Typically, one worker represents one job, but the number of workers with more than one job has

grown over the last two decades: by 1998, moonlighters totalled 720,000. Equating employment with jobs distorts estimates of job creation (or job loss). A second job taken by someone who is already working does not increase employment as measured by the Labour Force Survey (which counts workers rather than jobs). Similarly, the loss of one job by a moonlighter does not decrease the number of workers.

Annual changes in jobs



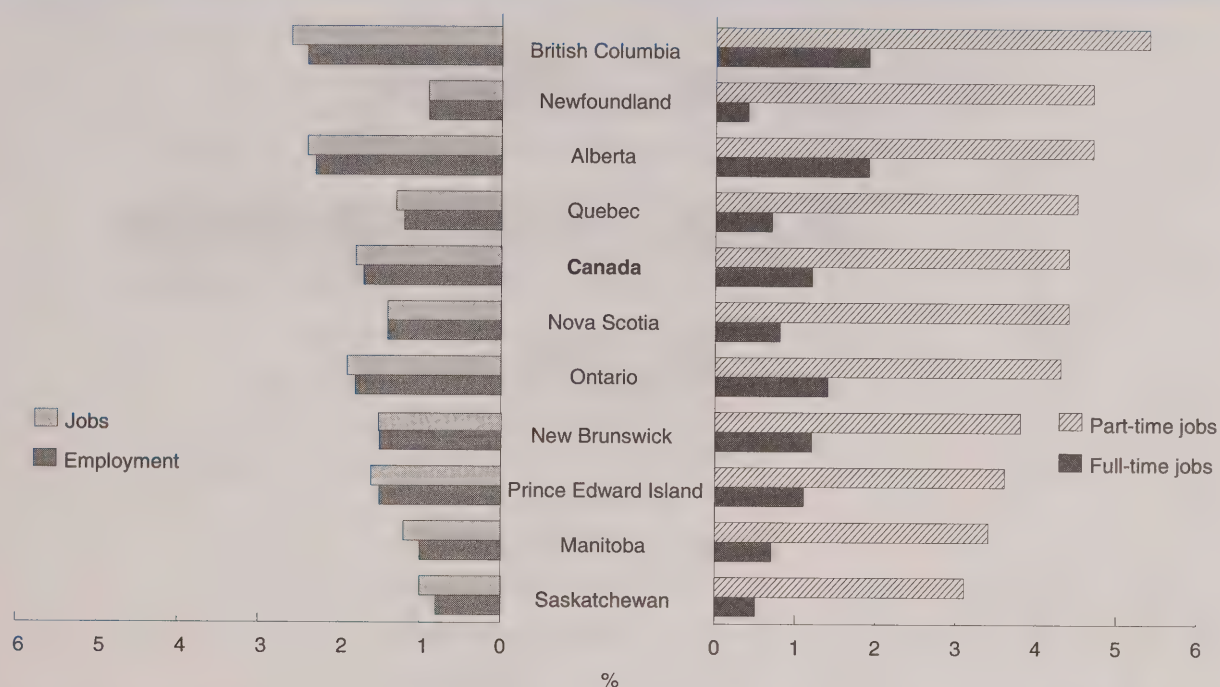
Source: Labour Force Survey

Part-time jobs expanding more rapidly

Since 1978, the number of part-time jobs has increased every year (at an average annual rate of 4.5%), reaching 3.3 million in 1998, for a total growth of more than 100% over the two decades. The number of full-time jobs, while also generally increasing during the period (1.2% annually), fell sharply during each of the last two recessions. By 1998, the number of full-time jobs was only 30% higher than in 1978. As a result of the different growth rates, part-time jobs accounted for 22% of all jobs in 1998, compared with 15% in 1978.

Charts and text were prepared by Henry Pold, Labour and Household Surveys Analysis Division. He can be reached at (613) 951-4608 or poldhen@statcan.ca.

Job growth, 1978 - 1998



Source: Labour Force Survey

Every province shared in the part-time job expansion, with the most rapid growth occurring in British Columbia (5.4% annually) and the slowest in Saskatchewan (3.1%). British Columbia and Alberta had the highest annual growth rate for full-time jobs (1.9%). Newfoundland had the lowest (0.4%).

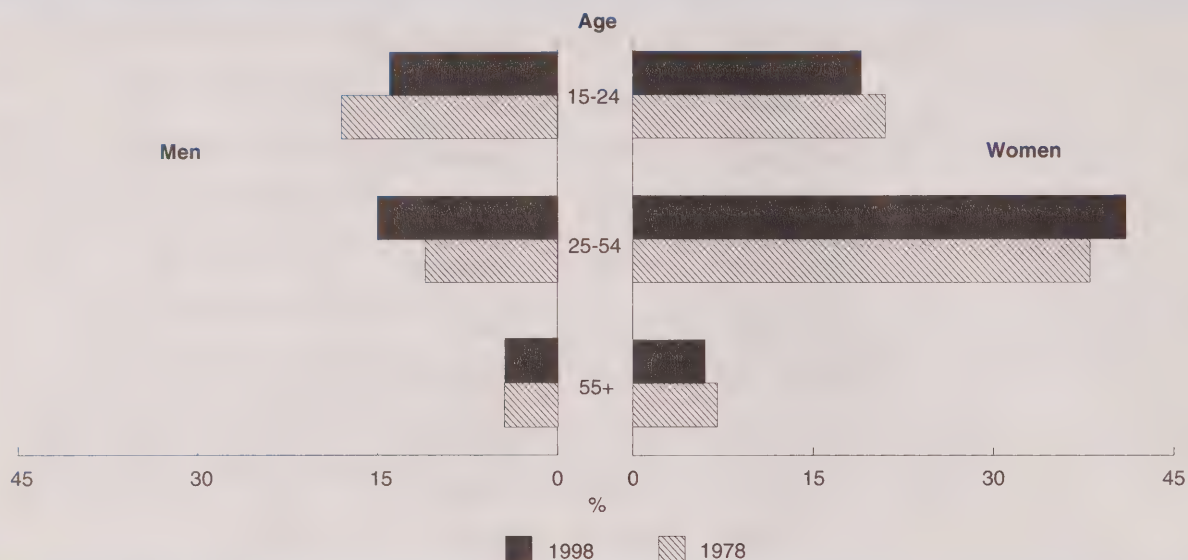
In 1998, the highest proportion of part-time jobs was shared by British Columbia and Saskatchewan (25%). The lowest rate was also a tie, 18% in both Newfoundland and New Brunswick.

Proportion of part-time jobs, 1998

	%
Canada	22
Newfoundland	18
Prince Edward Island	21
Nova Scotia	22
New Brunswick	18
Quebec	20
Ontario	22
Manitoba	24
Saskatchewan	25
Alberta	23
British Columbia	25

Source: Labour Force Survey

Distribution of part-time jobs by age and sex



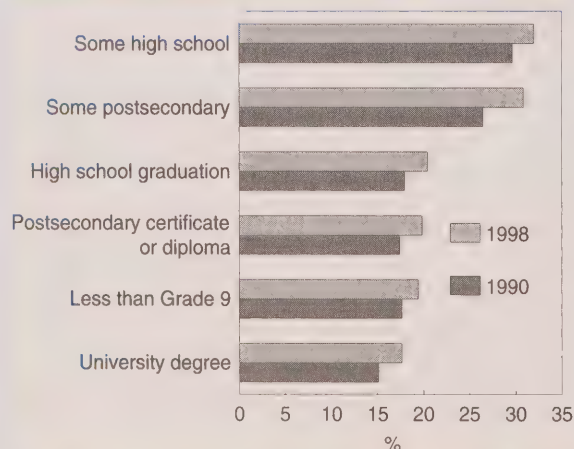
Source: Labour Force Survey

Middle-age spread

In 1998, the majority (57%) of part-time jobs were filled by 25-to-54 year-olds, up from 48% in 1978. In contrast, the share held by youths aged 15 to 24 fell from 40% to 33%. Nonetheless, young people had by

far the highest rates of part-time jobs: 40% for men and 56% for women, compared with just 8% and 26%, respectively, for 25-to-54 year-olds. For workers aged 55 and older, the gap between the sexes was even wider, with part-time job rates of 17% for men versus 38% for women. While the rates increased in each age group for both sexes between 1978 and 1998, the changes were most dramatic for youths, as the rates more than doubled for both men and women.

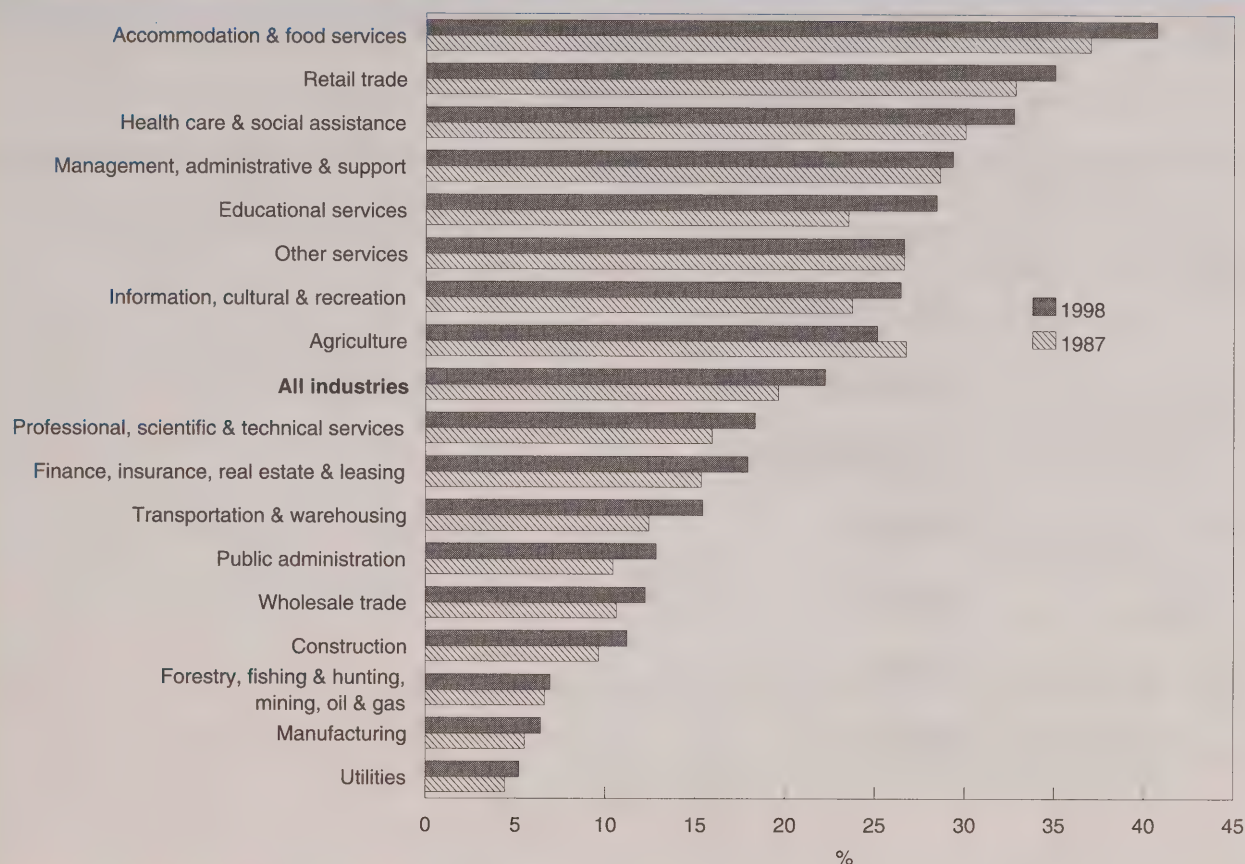
Part-time jobs by education



Source: Labour Force Survey

The highest proportions of part-time jobs were among persons with some high school or post-secondary education – many of them probably still students. The lowest proportion was among persons with a university degree. Regardless of education level, the proportion of part-time jobs increased between 1990 and 1998. The educational attainment variable was changed in 1990.)

Part-time jobs by industry



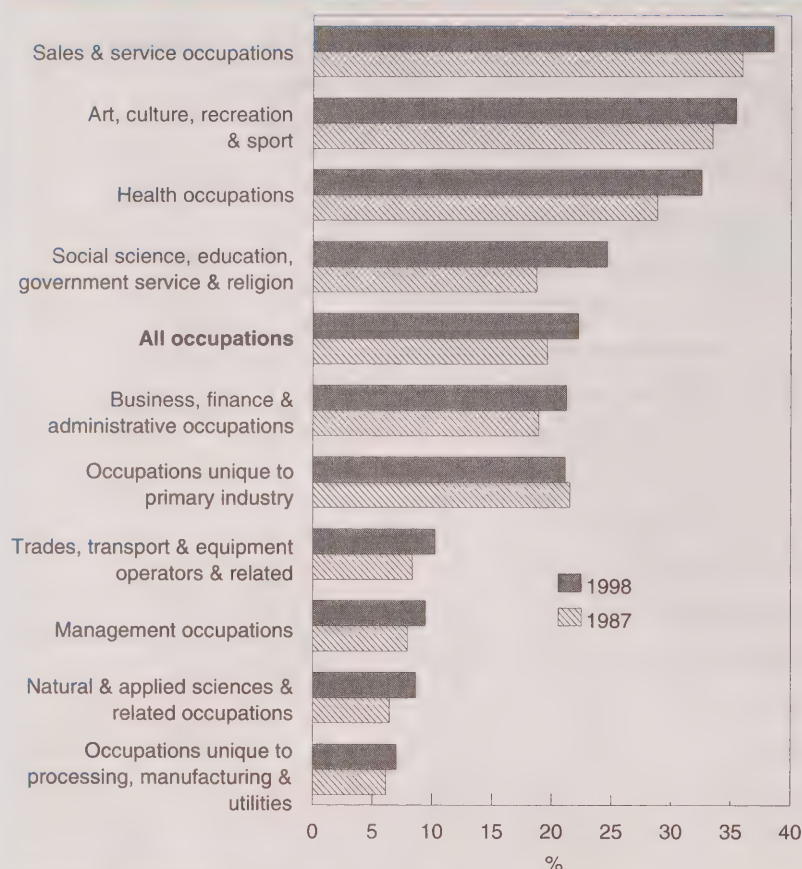
Source: Labour Force Survey

Where are part-time jobs most likely to be found? In 1987,¹ industries in the service sector had higher rates of part-time jobs than the goods sector; by 1998, the disparity had widened even more. Agriculture, in fact, was the only goods-producing industry with an above-average part-time job rate, and the only one with a drop in part-time jobs during the period.

The three industries with the highest proportions of part-time jobs – accommodation and food services; retail trade; and health care and social assistance – all deal directly with individual consumers. Businesses in

these industries must respond to fluctuating and often highly concentrated levels of activity. They need peak staff levels for only short periods – hence the high rates of part-time jobs. On the other hand, consumers make little immediate difference to job levels in manufacturing, other primary industries and utilities. In these industries, because demand is set primarily by other businesses, time horizons are longer and staff levels can be more constant, so part-time jobs are less useful.

1. Industry data, coded to NAICS, are available only from 1987 onward.

Part-time jobs by occupation

Source: Labour Force Survey

By and large, the distribution of part-time jobs by occupation² reflects that by industry – the highest incidence being in service and sales occupations, and the lowest in occupations unique to processing, manufacturing and utilities. Nonetheless, all occupations except those unique to primary industry had increases in the proportion of part-time jobs over the 1987-to-1998 period.

2. Occupation data, coded to SOC 91 are available only from 1987 onward.

In the works

Some of the topics in upcoming issues

■ Involuntary part-time workers

A discussion of the conceptual, measurement and profile differences of pre- and post-1997 Labour Force Survey data on involuntary part-timers.

■ Employment after childbirth

An examination of the timing of women's return to paid work following childbirth and the factors related to their decision.

■ Working together: self-employed couples

An examination of the characteristics of couples who co-own the same business, with a look at the types of business run.

■ The role of self-employment in job creation in Canada and the United States

The unemployment gap between the two countries has increased, and income inequality and poverty have been greater issues in the United States than in Canada. This paper will address the types of job created: in the United States, most were full-time paid jobs, while in Canada most employment growth was in part-time jobs and self-employment. (An adaptation.)

■ Public versus private wage differentials

This paper will examine earnings differentials between public and private sector employees, including the factors contributing to the differences (for example, human capital and occupational distribution).

■ Youths and volunteering

The proportion of youths doing volunteer work has jumped from 18% to 33% over the past 10 years. This paper will compare young volunteers of 1987 and 1997 to determine who the new young volunteers are, where they are volunteering and what they are doing.

■ Patterns of volunteering among Canada's seniors

This study will examine the main patterns of volunteering by seniors, and consider how the patterns have changed since 1987.

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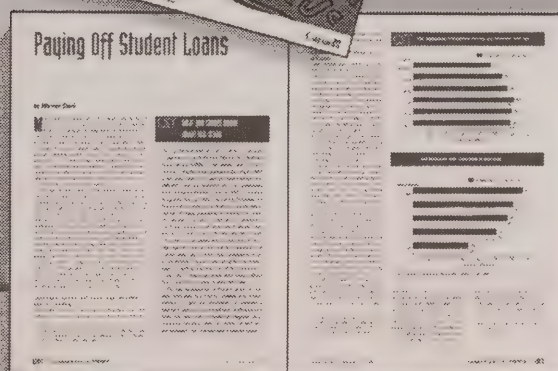
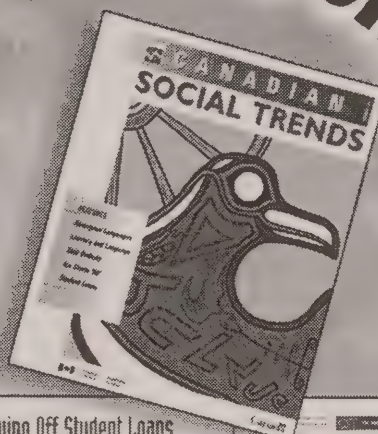
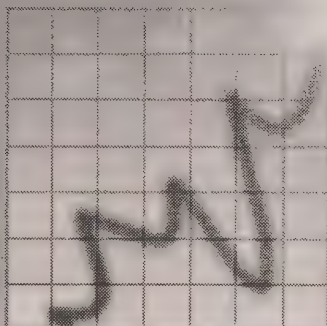
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AUTUMN 1999

Vol. 11, No. 3

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■ Articles

9 Seniors who volunteer

Frank Jones

As governments have cut back on social and other services, an aging population's need for a strong support structure has grown. Seniors, in fact, have created both a growing market for such services and a potential source of volunteer labour to meet these needs. How involved are seniors in volunteering? What services are they providing? This study examines the volunteer activity of seniors aged 55 and over in 1997.

18 Employment after childbirth

Katherine Marshall

Women are an integral part of the labour market. Understanding their work patterns can help employers manage birth-related work interruptions and, in the end, retain experienced employees. This article looks at the work patterns of women who gave birth between 1993 and 1994. It examines the timing of their return to paid work following a birth, and considers the personal and job characteristics of those who returned within two years and those who did not.

26 Baby boom women – then and now

Louise Earl

Have baby boom women had an easier path through the labour market than women a generation older or younger? This article studies the "success" of baby boom women by looking at their situation in 1977 and 1997 and comparing it with that of the preceding and succeeding generations, using four major indicators: labour force participation; full-time employment; unemployment; and full-year full-time earnings.

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30 Missing work in 1998 – industry differences

Ernest B. Akyeampong

In January 1999, the Labour Force Survey adopted the North American Industry Classification System (NAICS) for its industry coding. This article examines 1998 work absence rates according to NAICS. It provides a brief overview of the absence levels for 1997 and 1998, and a detailed examination of industry differences in the latter year.

37 Self-employment in Canada and the United States

Marilyn E. Manser and Garnett Picot

Considerable attention has been paid in recent years to self-employment in Canada, especially to workers' reasons for choosing this option. Have they been "pushed" by lack of full-time paid jobs or "pulled" by the positive benefits of self-employment? This article looks at the characteristics of the self-employed and the growth of self-employment in Canada and the United States. (Adapted from an article in *Canadian Economic Observer* published in March 1999.)

45 Unionization – an update

Ernest B. Akyeampong

This update of *Perspectives'* socio-demographic and economic profile of union members provides unionization rates according to the new North American Industry Classification System and the 1991 Standard Occupational Classification. The update, which extends to the provincial level, also includes data on earnings, wage settlements, inflation, and strikes and lockouts.

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Forum

From the Managing Editor

In the mail...

"Seasonality in employment" (Spring 1999)

■ The article stresses fairly strongly the "costs" of seasonal variations, but fails to mention the social benefits from having seasonal jobs; for example, the possibilities these provide for young people to gain work experience during the years when they are mainly engaged in education or training, workers who find it difficult to get permanent jobs close to home, or (semi-) "retired" persons. It may therefore be that the social costs of the decline in seasonal variations are larger than the possible gains to employers. It would have been interesting to have had a more explicit assignment of the reasons for the decline in seasonal variations to demand or supply factors.

None of the "highly seasonal industries (HSI)" specified in Table 1 are "service-producing." It would be interesting to know whether the HSI group would have included service sectors, and which those would have been, if the specification of industry groups had been significantly more detailed. Will, for example, "hotels and restaurants" then qualify as HSI?

Eivind Hoffmann
Bureau of Statistics
International Labour Office

.....

■ You are correct to point out that there can be positive aspects to seasonal variation in employment. In particular, the gain in seasonal employment in the summer months may indeed be beneficial for students and/or young people looking for work experience. And this is especially true given that the youth unemployment rate in Canada has been consistently above 15% throughout the 1990s. However, it has been argued (not in this paper) that regional seasonal work can be a drain on the economy and productivity, because of its historical link to the Employment Insurance program (EI, but formerly known as

UI). "UI continues to subsidize seasonal work, and blunts the incentives for workers in high-unemployment regions to move to where the jobs exist or to acquire the training they need" (Globe and Mail, November 14, 1998).

And yes, if we had done seasonal variation calculations for all 2-digit or 3-digit industry codes there most likely would have been more "highly seasonal industries." Since your letter, we did seasonal variation calculations for "accommodation and food services." Interestingly, they were not significantly greater than the overall average. For example, in 1997 the seasonal variation for all industries was 2.8 whereas for accommodation and food services it was 3.1. But at the 3-digit level, within accommodation and food services, some categories would almost certainly be highly seasonal, such as "recreation and vacation camps." However, low employment levels at the 3-digit industry level may prevent a reliable analysis of seasonal variation.

Perspectives

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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Highlights

In this issue

■ Seniors who volunteer

... p. 9

- Over 25% of seniors (aged 55 and older) donated their time to a volunteer organization in 1997, giving 15 hours per month, compared with the overall average of 12 hours.
- In 1997, seniors' most important reason for volunteering was to support a cause in which they personally believed (98%). Second was to use skills and experience (73%), and third – cited by some two-thirds of seniors – was to work for an organization whose mandate or cause had affected them personally.
- Frequently offered “formal” volunteer services (that is, activities performed for an organization) were organizing or supervising events, sitting as board members, and canvassing, campaigning and fundraising. These occupied 39% to 43% of senior formal volunteers in 1997. Providing care or support was one of the few services that increased as seniors aged; more demanding tasks, such as organizing or supervising events, and canvassing, campaigning and fundraising, declined.
- Of the 74% of seniors who did not give their time to an organization in 1997, some 53% cited health reasons as the most important reason for not volunteering. This reason, and the view that enough time had already been contributed, increased in frequency with age.
- Seniors were much more likely to volunteer on their own (“informal volunteering”) than through an organization. Over 64% volunteered informally in 1997.

■ Employment after childbirth

... p. 18

- On average, women returned to paid work around six months after giving birth. Of the 367,000 employed women who gave birth in 1993 or 1994, about 76,000 or 21% were back to work in less than two months. Some 12% returned after five months, while another 19% did so after six and 11% after seven. Given the flexibility of the start time of maternity leave, and a maximum 25-week combined paid maternity and parental leave under Employment Insurance, it is not surprising that many women returned around the sixth month.
- The potential for major loss of income spurred early return to work. Women who did not receive maternity benefits and those who were self-employed returned more quickly than those who received benefits or who were paid workers. Some 34% of early returnees (those who returned in less than two months) were self-employed, compared with just 2% of those who returned later. Also, 60% of those who returned by the end of the first month received no Employment Insurance benefits, compared with just 9% of those who returned later.
- Those who returned to work early were more likely to be unionized (33% versus 16%) and to have longer tenure at their previous job (49 months versus 26).
- Of those who had *not* returned to work, 30% were lone parents (compared with 4% of women who had returned). Also, these mothers were more likely to have fewer children under the age of six at home.

■ Baby boom women – then and now ... p. 26

- In 1977, almost 6 of every 10 baby boom women aged 25 to 29 were in the labour force (59%). In contrast, only 53% of women aged 45 to 49 were in the labour force that year. Furthermore, a far higher proportion of employed baby boom women worked full time: 83%, compared with 74% of 45-to-49 year-olds.
- Twenty years later, 77% of baby boom women (by then aged 45 to 49) participated in the labour force, compared with 78% of Generation X women aged 25 to 29. Some 77% of employed baby boomers worked full time, as did 78% of Generation X women (though the latter had greater problems finding employment).
- Baby boom women working full time in 1977 earned \$1.04 for every dollar earned by women aged 45 to 49, even though they worked fewer hours: 1,967 hours annually, compared with 2,059. In 1997, Generation X women aged 25 to 29 earned just 83 cents for every dollar earned by baby boom women aged 45 to 49.
- Over 15% of baby boom women in the 1977 labour force held university degrees, compared with only 6% of women aged 45 to 49. The converse held true for the proportion with less than high school: only 6% compared with 24%. In 1997, some 5% of baby boom women had less than high school, while 19% were university-educated; comparable figures for Generation X women were 1% and 27%.

■ Missing work in 1998 – industry differences ... p. 30

- In 1998, an estimated 5.7% (525,000) of all full-time employees were absent from work for all or part of any given week for personal reasons (“own illness or disability” and “personal or family responsibilities”) – up from 5.5% a year earlier.
- As a result of these absences, approximately 3.1% of usual weekly work time was lost (inactivity rate)

in 1998, also up slightly from 3.0%. This translates into an increase of nearly half a day per full-time employee – from 7.4 days to 7.8 (6.6 for illness or disability and 1.2 for personal or family responsibilities). Stated differently, employees missed approximately 72 million workdays because of personal reasons in 1998, up from 66 million in 1997.

- Significant variations in time lost among the major industries can be explained largely by days lost due to illness or disability. Workdays missed on account of personal or family responsibilities clustered around 1.1 days.
- Full-time employees who lost the most time (12.8 days) were in health care and social assistance, a highly unionized industry believed to be relatively stressful and having a large proportion of female workers. They were followed by those in transportation and warehousing, a relatively hazardous and heavily unionized industry (9.4); public administration, also heavily unionized and with a high concentration of female employees (9.4); and manufacturing (8.5).
- Workers who lost comparatively little time were in the professional, scientific and technical industries (4.6 days); accommodation and food services (5.7); and agriculture (5.8).

■ Self-employment in Canada and the United States ... p. 37

- Overall, the growth of total self-employment was substantial in both Canada and the United States from 1979 to 1997 (77% and 37%). Between 1989 and 1997, the increase in Canada’s self-employment rate (share of total employment) was striking – from 14% to 18% – after having remained stable during the 1980s. The American rate changed little, registering around 10% over the entire period.
- Between 1989 and 1997, self-employment accounted for about 80% of the net employment gain in Canada, but only about 1% in the United States. Unincorporated self-employment by itself contributed about half of net new jobs in Canada, but virtually none in the United States.

- In Canada, about 60% of net new self-employment jobs created during the 1980s involved entrepreneurs who themselves engaged other employees. The remainder were created by own-account workers (that is, entrepreneurs with no employees). During the 1989-97 period, however, fully 90% were own-account entrepreneurs.
- The industrial concentration of self-employed jobs was similar in the two countries. Self-employment was high in agriculture and construction, and virtually absent from mining and manufacturing. Finance, insurance and real estate, and both retail and wholesale trade fell in the middle.
- Men were more likely to be self-employed than women. The proportions of male and female workers who were self-employed in the late 1990s were 13% and 8% in the United States, and 21% and 14% in Canada. In service occupations, however, women were considerably more likely than men to be self-employed.
- Over the 1989-97 period, about 40% of all net new self-employment jobs in Canada were in the generally higher-paying service industries (business services, for example); the remaining new service sector jobs were largely in the lower-paying personal services, and accommodation and food services. In contrast, the United States saw little change in service jobs for the self-employed (38% of all self-employment in 1996).

■ Unionization – an update ... p. 45

- At 11.9 million, average paid employment during the first half of 1999 was 292,000 higher than that a year earlier. Union membership, however, remained virtually unchanged at 3.6 million. This resulted in a decline in the union rate (density) from 30.7% to 30.1%. The drop affected both men and women: men's rate fell from 31.6% to 30.9%, and women's, from 29.8% to 29.3%. Quebec, Ontario, British Columbia, Newfoundland and New Brunswick all recorded declines in union density; Alberta, Manitoba, Prince Edward Island and Nova Scotia, however, saw rises, while Saskatchewan was unchanged.

- Approximately 3.6 million employees (30.6%) belonged to a union in 1998. An additional 297,000 (2.5%) were covered by a collective agreement. Employees in the public sector were more than three times as likely as their private sector counterparts to belong to a union (71.3% versus 19.1%). Almost one in three full-time employees belonged to a union, compared with one in five part-time workers. Close to one in three employees in a permanent position was a union member, compared with roughly one in four in a non-permanent job.
- Unionized workers earned more than non-unionized workers. This held true whether they worked full time (\$19.06 versus \$15.57) or part time (\$16.80 versus \$9.81).
- Contract settlements surpassed the inflation rate in 1998 (1.6% versus 1.0%). As of April this year, the results were similar (1.7% versus 1.0%).
- During the first quarter of 1999, working time lost due to strikes and lockouts rose slightly – from 0.08% in 1998 to 0.09%.

■ What's new?

... p. 66

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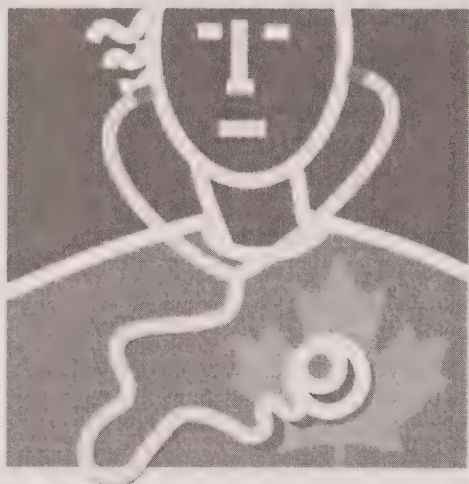
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Seniors who volunteer

Frank Jones

As governments have cut back on social and other services, an aging population's need for a strong support structure has grown. Seniors, in fact, have created both a growing market for such services and a potential source of volunteer labour to meet these needs. Many enjoy good health and increasing leisure time.

How involved are seniors in volunteering? What services are they providing? Have the patterns changed since 1987? This study examines the volunteer activity of seniors aged 55 to 64 (young), 65 to 74 (mid-years), and 75 or over (older) in 1997 (see *Data sources and definitions*). Many young seniors are probably making the transition from paid work to retirement and are those most likely to consider new volunteer commitments. Those in their mid-years are relatively free of major life changes. And older seniors are most likely to have health problems and to need volunteer services themselves.

Though informal volunteering is also considered here, the emphasis of this analysis is on formal volunteering (through an organization).

Seniors' volunteering in context

The article first compares seniors' "formal" volunteer participation rates and hours with those of younger groups. In both 1987 and 1997, rates were highest for those aged 35 to 44 (Chart A), then tended to fall with each succeeding age group. The rates for seniors aged 55 to 64 and 65 to 74 in 1987 were the same as the average for the whole population (27%), while that for the oldest group was much lower (13%). In both years this group registered the lowest rate.

Average hours volunteered increased with age (Chart B). This is not surprising, given the free time available to many older people. For every age group except the oldest, the time commitment was greater in

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Data sources and definitions

The National Survey of Volunteer Activity was a supplement to the October 1987 Labour Force Survey. (A follow-up phase was completed in January 1988.) The National Survey of Giving, Volunteering and Participating was a supplement to the November 1997 Labour Force Survey.

Formal volunteers willingly performed a service without pay, through a group or organization, at least once during the reference year, November to October (Hall et al., 1998). **Informal volunteers** helped on their own during the reference year, either directly to anyone not living in the same household, or indirectly by service to the community or environment – but not through a group or organization (Duchesne, 1989). Both surveys covered persons 15 years and over, except residents of the Yukon and Northwest Territories, persons living on Indian reserves, inmates of institutions, and full-time members of the Armed Forces.

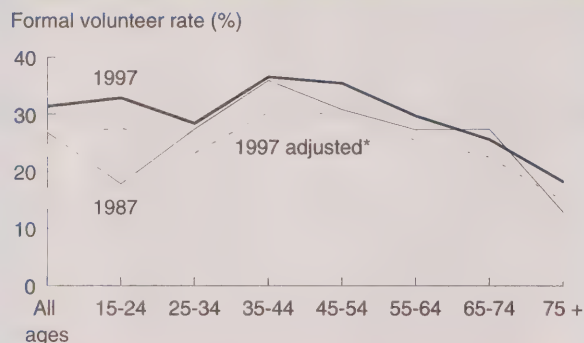
The data on leisure time were obtained from the General Social Survey of 1992. That survey covered persons 15 years and over, except residents of the Yukon and Northwest Territories and full-time residents of institutions.

Note: Because of a definitional change, caution should be exercised when interpreting changes between 1987 and 1997 (see Appendix).

1987 than in 1997, though the gap tended to narrow with age. Older seniors volunteered 17 hours per month in both years. The average for all volunteers was 16 hours per month in 1987 and 12 in 1997.

Formal volunteers

Some seniors are much more likely to volunteer their services to organizations. In both years, the most likely to do so were those with relatively high education, good health and high household income, as well as those who saw themselves as being "very religious" (Table 1). Seniors in the Prairie provinces, New Brunswick and Nova Scotia were more likely to volunteer

Chart A: After age 35 to 44, volunteer rates generally decline...

Sources: National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating

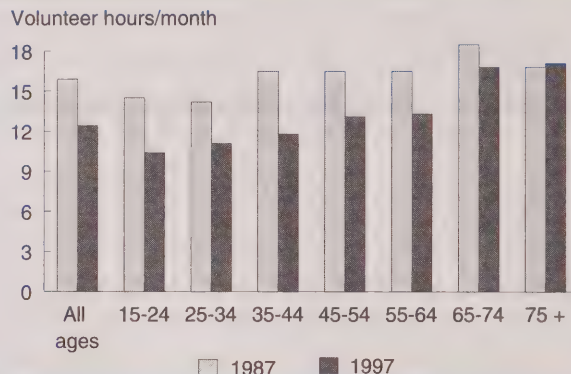
* See Appendix.

than seniors in other provinces. Surprisingly, employed seniors were more likely to volunteer than those not employed, especially in 1997. Their sex and marital status made little difference to their participation rates.

Although seniors' volunteer rate falls with age, their hourly commitment increases, suggesting that those who volunteer more time are less likely to drop out than those who give relatively few hours (see *How much time do seniors give?*). In 1997, the rate was 30% for young seniors and 18% for older seniors. Declining health and the desire to retire not only from paid work but also from volunteer work may explain part of the drop. The declines were especially steep for residents of Nova Scotia, Manitoba, Saskatchewan and Alberta, and the very religious seniors. The difference between the rates for young and mid-years seniors was generally less than that between mid-years and older seniors.

Employed seniors, however, were the exception. Their volunteer rates were higher among mid-years than young seniors. This may be because some employed seniors tend to take on volunteer work when they move to part-time work or to fewer hours – an example of role substitution (Chambré, 1984).

A related explanation is that the self-employed, who generally retire later than employees, have more control over their time, which may enable them to take on

Chart B: but the hours per volunteer increase.

Sources: National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating

volunteer work. In 1997, the volunteer rates for seniors with self-employment income were much higher than those for seniors who did not report such income: 40% versus 28% for young seniors and 33% versus 26% for mid-years seniors. Working mid-years seniors were almost all self-employed.

People's tendency to volunteer at different stages of life, though best studied with longitudinal data, can be considered indirectly. To illustrate, most of the young seniors in 1987 (born between 1932 and 1941) became mid-years seniors in 1997.¹ The volunteer rate for this "cohort" declined 2 percentage points over the 10-year period. The rate for women fell 7 points, while men's actually rose 4 points. In contrast, the rate for the older seniors of 1997 was 9 percentage points lower than that for mid-years seniors in 1987. The rate for women fell 13 points, and that for men, 4 points.

Seniors' overall volunteer rate increased little over the decade. Some substantial differences, however, were evident within subpopulations. The rate increased over 8 points, for example, in New Brunswick and Saskatchewan, while it fell by over 6 points in Prince Edward Island and Alberta. The rate also rose over 5 points for men and the employed, while it fell 4 or more points for those with household income of \$60,000 or more, and for those with some postsecondary education. The increase for older seniors exceeded that of young and mid-years seniors by over 5 points.

Table 1: "Formal" volunteer participation rates of seniors aged 55 and over

	1987				1997			
	55 +	55-64	65-74	75 +	55 +	55-64	65-74	75 +
	%							
Both sexes	24.6	27.3	27.4	12.9	25.7	29.7	25.6	18.2
Men	20.7	22.6	23.2	9.8	26.1	28.5	26.8	19.0
Women	27.9	31.7	30.6	15.1	25.4	30.9	24.5	17.7
Province								
Newfoundland	18.7	23.4	19.6	--	22.7	28.3	26.2	--
Prince Edward Island	27.9	47.8	--	--	20.1	--	--	--
Nova Scotia	25.9	30.5	27.3	--	30.4	44.2	26.1	14.0
New Brunswick	23.5	29.2	26.5	--	31.7	34.5	37.2	--
Quebec	17.3	21.3	17.8	--	16.8	18.9	18.5	9.1
Ontario	25.6	26.6	29.9	15.6	28.2	31.9	28.0	21.6
Manitoba	31.2	37.1	31.6	18.7	30.7	38.7	30.8	18.3
Saskatchewan	28.6	33.8	30.2	16.2	39.0	51.6	35.6	25.6
Alberta	36.9	40.7	39.1	20.9	30.6	38.2	25.7	22.6
British Columbia	26.1	27.4	31.3	14.2	25.7	27.9	25.7	21.7
Area of residence								
Urban	28.6	35.2	27.9	13.5	24.6	28.3	24.9	17.1
Rural	23.7	25.6	27.2	12.8	30.9	36.1	28.9	23.6
Marital status								
Married or common-law	26.6	28.6	28.8	12.1	28.2	31.0	27.9	20.4
Separated or divorced	19.8	17.2	--	--	22.4	24.5	21.1	--
Widowed	20.9	26.5	24.4	14.5	19.4	24.0	21.7	15.7
Single	19.8	22.9	21.5	--	24.2	31.7	17.2	22.8
Employment status								
Not employed	24.0	28.6	26.9	12.9	23.7	27.9	24.9	17.3
Employed	26.2	25.9	31.0	--	32.6	31.8	34.1	--
Household income								
Less than \$15,000	19.0	20.0	21.8	14.3	16.7	20.5	16.2	13.5
\$15,000 to \$29,999	26.5	27.2	30.7	15.0	24.1	27.6	26.2	17.4
\$30,000 to \$59,999	32.5	31.0	41.7	--	30.8	32.7	31.8	22.8
\$60,000 or more	41.7	42.3	43.8	--	33.4	33.9	30.1	--
Education								
Less than high school	12.7	14.8	14.5	6.9	17.3	19.6	18.3	12.7
High school graduation	28.2	28.2	32.8	16.7	28.4	31.4	28.1	22.8
Some postsecondary	36.5	38.2	38.4	--	32.8	36.0	32.4	24.4
Degree or diploma	42.3	47.6	44.2	24.7	43.9	46.5	41.3	41.2
Perceived health status								
Fair or poor	14.5	18.0	16.6	7.0	16.7	22.5	16.7	10.1
Good or excellent	34.5	33.3	39.0	27.3	29.9	32.4	30.1	23.4
Perceived religiosity								
Fairly/not very religious	23.9	25.3	27.0	13.6	24.1	27.7	23.7	17.3
Very religious	34.6	43.8	35.7	15.4	36.3	43.7	38.6	22.7

Sources: National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating

Volunteering on one's own

Seniors are much more likely to volunteer on their own than through an organization. Over 64% did so in 1997, an increase of one percentage point from 1987. The increase was especially high for young seniors (from 66% to 74%). Men and women were equally likely to have volunteered informally in 1997, after a

4-point rise for men. The rate for young senior women exceeded that of their male counterparts in 1997, while the reverse was true for mid-years and older seniors.

Volunteer organizations may look on informal volunteering in two somewhat contradictory ways. Some may see it as competition for seniors' time. Others may view it as fertile ground for recruitment: if these

Table 2: Rates of formal and informal volunteering for seniors aged 55 and over

	Age			
	55 +	55-64	65-74	75 +
	%			
Formal				
1987				
Informal volunteer	33.6	35.6	34.7	23.3
Not informal volunteer	9.6	11.0	12.8	--
Ratio: volunteer/non-volunteer	3.5	3.3	2.7	--
1997				
Informal volunteer	34.2	35.9	33.8	30.4
Not informal volunteer	10.2	12.7	11.1	6.9
Ratio: volunteer/non-volunteer	3.3	2.8	3.0	4.4
Informal				
1987				
Formal volunteer	85.5	86.5	84.2	85.2
Not formal volunteer	55.3	58.7	59.5	41.6
Ratio: volunteer/non-volunteer	1.5	1.5	1.4	2.0
1997				
Formal volunteer	85.8	88.7	84.3	80.4
Not formal volunteer	57.1	67.1	56.7	41.0
Ratio: volunteer/non-volunteer	1.5	1.3	1.5	2.0

Sources: National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating

seniors are predisposed to volunteer, they may be more likely to respond positively if approached.

The latter view is supported by the evidence. Overall, seniors who volunteered on their own in the preceding year were over three times more likely to volunteer formally than those who did not volunteer informally (a formal volunteer rate of 34% versus 10% in 1997) (Table 2). Young and mid-years seniors who gave their time informally were three times more likely to volunteer formally in 1997, and older seniors were over four times more likely to do so.

Likewise, people who volunteered for organizations were more likely to volunteer informally. The informal rate was much higher for seniors volunteering in organizations (86% in 1997) than for others (57%). Though the rate declined with age for both groups, it did so more markedly for those who were not involved with an organization.

What motivates seniors to volunteer in organizations?

Knowing what motivates seniors to volunteer is the key to their successful recruitment. In 1997, the single most important reason, cited by all age groups, was to support a cause in which they personally believed (98%) (Table 3).

The second reason was to use skills and experience (73%), a motivation that declined only slightly with age. Third, some two-thirds of seniors (both young and older) said they volunteered for an organization whose mandate or cause had affected them personally.

Fulfilling religious obligations and beliefs and exploring personal strengths were also important to senior volunteers, reported by 44% and 42%,

How much time do seniors give?

Though formal volunteer hours are not examined in detail, almost half of all senior volunteers averaged less than six hours per month in 1997. The percentage of those contributing 30 or more hours per month was higher for older seniors than for young and mid-years seniors. A higher percentage of men than women contributed 30 or more hours.

Volunteer hours per month, 1997

	Age			
	55 +	55-64	65-74	75 +
	%			
Both sexes				
Less than 2	23.2	23.3	23.6	22.0
2 to 5.9	23.7	23.0	24.2	25.1
6 to 14.9	22.6	24.4	21.1	20.1
15 to 29.9	16.9	17.9	16.2	15.5
30 or more	13.5	11.4	14.8	17.2
Women				
Less than 2	24.2	25.5	23.2	22.3
2 to 5.9	21.9	21.5	19.9	27.4
6 to 14.9	21.7	22.0	22.9	18.1
15 to 29.9	20.0	21.1	19.8	17.2
30 or more	12.3	9.9	14.2	15.0
Men				
Less than 2	22.2	20.9	24.1	21.7
2 to 5.9	25.8	24.6	29.0	22.0
6 to 14.9	23.6	27.1	19.1	22.8
15 to 29.9	13.4	14.2	12.2	--
30 or more	15.0	13.1	15.5	20.3

Source: National Survey of Giving, Volunteering and Participating

respectively. Fulfilling religious obligations was more important for older seniors (54%, compared with 40% for young seniors). In contrast, exploring personal strengths was more important to young seniors (46% versus 35% of older seniors).

Volunteering because friends did so was less important, but still cited by 28% of senior volunteers in 1997. As was the case for fulfilling religious obligations, this reason was given more often by older seniors (33%) than by young seniors (25%).

Because most were either retired or approaching retirement, only 6% volunteered to improve job opportunities. This reason was reported most by young senior volunteers, though only by 9%.

Why not volunteer more time in an organization?

Why do formal volunteers not give more of their time? Given 10 possible reasons, 7% of senior volunteers in 1997 noted none, 22% listed only one, while the rest noted multiple reasons.

Just over half said they lacked the time to devote more hours to volunteer work (Table 3). Of these, 51% said they had already made their contribution, 34% said they were unwilling to make a year-round commitment, and 25% cited health reasons. Lack of time was a greater problem for young senior volunteers (61%) than for older volunteers (38%). Seniors volunteering informally were more likely to mention lack of time (53%) than those not volunteering informally (44%). Of those who did not men-

tion lack of time, 46% said they had already done their share of volunteering, 42% cited health reasons, 33% said they were unwilling to make a year-round commitment, and 17% said they had not been asked.

Overall, almost half of senior volunteers said they were unwilling to contribute more time because they believed they had already made their contribution. This reason was more important than the lack of time for both the mid-years and older volunteers. Being an informal volunteer was not a factor in this response.

Health problems were cited by a third of senior volunteers. No other reason was so strongly related to age. For older seniors it was the most important reason in 1997, given by 59%. In contrast, only 21% of young seniors saw health as a problem.

One-quarter or more of senior volunteers said they preferred to give money than more time. This reason also increased in importance with age.

Only 16% of senior volunteers said they had not been asked to donate more time. This suggests that some would have been willing if asked. Of this 16%, one-half said they were too busy, 20% had no interest, and 48% believed they had already done their share. Among those who apparently *had* been asked to volunteer more time (84%), commonly mentioned reasons for not doing so were not having the time (52%), already having made a contribution (49%), health problems (34%), and an unwillingness to make a year-round commitment (30%). Few seniors said financial costs or legal risk prevented them from volunteering more time.

Table 3: Reasons for volunteering; reasons for not volunteering more time

	Age			
	55 +	55-64	65-74	75 +
	%			
Reason for volunteering				
Cause in which one believes	97.9	97.8	98.2	97.5
Use skills and experience	72.9	75.0	71.4	69.4
Personally affected by cause	68.1	69.6	66.6	66.8
Religious obligations or beliefs	44.5	39.8	46.8	54.0
Explore own strengths	41.8	46.1	38.9	34.7
Friends volunteered	28.3	25.1	30.4	33.3
Improve job opportunities	5.7	8.6	--	--
Reason for not volunteering more time				
No extra time	51.7	60.7	45.2	38.3
Already made contribution	48.7	45.6	51.1	53.1
Unwilling to make year-round commitment	33.4	34.4	35.2	25.8
Health problems	33.0	20.6	38.6	59.0
Gives money instead	25.4	22.9	26.2	31.7
Not asked	16.1	16.0	16.7	15.2
No interest	12.4	11.7	15.9	6.8
Financial cost	12.4	15.0	10.5	8.7
Concerns about liability	4.7	6.0	3.3	--
Did not know how to become involved	3.8	3.9	4.0	--

Source: National Survey of Giving, Volunteering and Participating, 1997

Why some are not involved

The 74% of seniors who were not formal volunteers in 1997 gave a variety of reasons, usually more than one, for not giving time to an organization (Table 4). Less than a third cited lack of interest. Health reasons were the most important reason, cited by 53%.

Table 4: Reasons for not volunteering

	Age			
	55 +	55-64	65-74	75 +
	%			
Health problems	53.1	34.2	57.6	77.5
Unwilling to make year-round commitment	45.3	50.6	45.5	36.2
Already made contribution	43.1	36.5	42.8	54.3
No extra time	40.5	55.1	37.0	21.7
Gives money instead	39.6	37.6	41.2	40.5
No interest	32.3	33.2	36.0	25.5
Not asked	23.7	28.5	24.2	15.1
Financial cost	16.3	16.9	17.7	13.5
Did not know how to become involved	9.2	12.6	5.7	8.7
Concerns about liability	5.4	7.4	4.7	--

Source: National Survey of Giving, Volunteering and Participating, 1997

Two of the most common reasons for not volunteering increased in frequency with age: health reasons, and the view that enough time had already been contributed. Other common reasons decreased with age: the unwillingness to make a year-round commitment, the lack of extra time, and the absence of a direct request, for example.

Health concerns were cited by over 50% of seniors overall, as well as by mid-years and older seniors. Only one-third of young seniors gave this as a reason for not volunteering.

The view that they had already made their contribution was given by 36% of young seniors, and 54% of older seniors.

Some people were unwilling to make a year-round commitment. Though 45% gave this as a reason for not volunteering, young seniors were more likely to cite this than older seniors (51% versus 36%). This reason may not be a strong barrier, however, as many volunteer assignments presumably do not require a year-round commitment.

Lack of extra time was mentioned by 41% of senior respondents. It was the most common reason given by young seniors (55%). In contrast, only 22% of older seniors, whose leisure time was greater, mentioned it (see *Free time*).

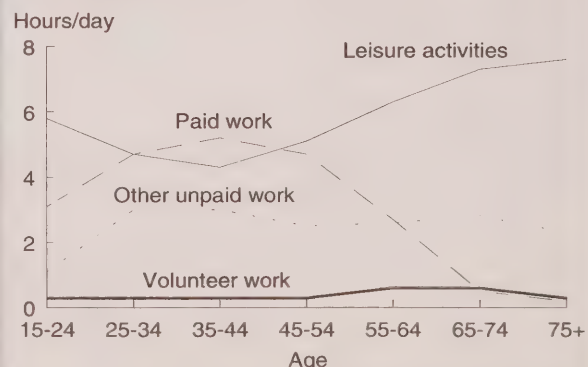
Some people said they had not been asked to volunteer, though this reason was relatively unimportant. It was least common for older seniors – 15%, compared with 24% of mid-years seniors and 28% of young seniors. Of all those who had not been asked, 46% said they had no time. Over half (56%) said they gave money instead. Health reasons were cited by 44% of those who had not been asked to volunteer. Cost and legal concerns were relatively unimportant for those who had not been asked – 25% and 14%, respectively.

Among the non-volunteers who *had* been approached, most cited health problems (56%), previous involvement (42%), lack of time (38%), an unwillingness to make a year-round contribution (38%), a preference for making financial donations (35%), and lack of interest (31%).

Free time

Seniors in their fifties gain considerable free time once they retire from paid work. Although most of the added free time goes into leisure pursuits (time spent at entertainment functions, at sports and hobbies, or with media such as television), some is channelled into unpaid work (domestic or household chores, child care and volunteering).

Time spent volunteering varies little by age.



Source: General Social Survey, 1992

One reason for not volunteering was unrelated to age: the giving of money rather than time. About 40% of seniors offered this as a reason for not volunteering.

Seniors take charge

Perhaps because seniors have more experience in such matters, they are heavily involved in organizing or supervising events, sitting as board members, and canvassing, campaigning and fundraising. These demanding tasks occupied 43% to 49% of seniors who volunteered formally in 1987, and 39% to 43% in 1997 (Table 5). They were the most popular forms of service for seniors overall, and for young and mid-years seniors. For older seniors, providing care or support occupied third position (33%).

Popular forms of care-giving among senior volunteers in 1997 were providing care or support (29%) and collecting, serving and delivering food (27%). Related services were driving (16%) and participating in self-help or mutual aid groups (8%). Providing care or support was one of the few forms of volunteering that increased with seniors' age.

Between 1987 and 1997, these preferences changed little, aside from noticeable declines in organizing or supervising events, sitting as board members and providing care or support, and a rise in "other" forms of volunteering. The declines were 7 percentage points in all three cases. Other forms of volunteering increased by 12 points (13 for young seniors and 10 for mid-years seniors). Part of this increase may reflect a change in the survey question regarding other forms of volunteering (see Appendix).

Though seniors provided many types of formal volunteer service, most focused on just one or two organizations. In 1997, some 61% worked in only one organization, another 22% in two, 10% in three, 4% in four, and the remaining 3% in five or more. Age of the senior made little difference to these findings.

Reaching out informally

As noted earlier, in addition to volunteering in formal organizations, a majority of both formal volunteers and other seniors volunteered

their time informally in a variety of ways (Table 6). Topping the list in both 1987 and 1997 was one of growing importance in an aging society: visiting the sick or the elderly. The percentage of informal volunteers providing this service in 1997 was 56%, some 11 percentage points lower than 10 years earlier. This activity declined by over 10 percentage points for every age group of seniors.

Shopping and driving for others and baby-sitting were also popular, involving almost half of informal senior volunteers in 1997.

Table 5: Formal volunteer services provided by seniors

	Age			
	55 +	55-64	65-74	75 +
	%			
1987				
Organizing or supervising event	49.4	54.6	45.6	36.2
Sitting as a board member	49.1	52.2	47.0	40.4
Canvassing, campaigning, fundraising	42.6	46.4	38.5	37.9
Providing care or support	36.1	35.1	38.6	32.2
Consulting, office, administrative work	27.7	31.4	24.9	18.9
Collecting, serving, delivering food	27.8	28.1	28.3	24.0
Other forms of volunteering	11.8	10.2	14.2	--
Influence public opinion, lobby, educate	23.7	28.2	19.7	15.3
Driving	18.3	17.9	20.3	13.1
Maintenance/repair	14.8	17.7	12.6	--
Teaching/coaching	10.3	12.0	9.2	--
Protecting the environment or wildlife	7.0	8.0	5.6	--
Participating in a self-help group	6.6	7.7	5.6	--
First-aid, firefighting, search and rescue	2.3	2.6	--	--
1997				
Organizing or supervising event	42.9	50.4	36.4	34.2
Sitting as a board member	42.0	45.1	38.5	39.9
Canvassing, campaigning, fundraising	39.3	44.6	36.0	30.4
Providing care or support	29.3	28.0	29.7	32.7
Consulting, office, administrative work	27.8	31.3	24.6	23.9
Collecting, serving, delivering food	26.6	26.7	27.7	24.1
Other forms of volunteering	24.2	23.1	24.5	26.8
Influence public opinion, lobby, educate	23.9	28.9	18.7	20.3
Driving	16.1	18.0	13.9	15.1
Maintenance/repair	13.8	15.6	13.5	8.5
Teaching/coaching	13.0	16.9	8.6	10.8
Protecting the environment or wildlife	8.2	10.0	6.7	6.1
Participating in a self-help group	7.7	10.1	5.2	--
First-aid, firefighting, search and rescue	2.4	3.6	--	--

Sources: National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating

Table 6: Informal volunteer services provided by seniors

	Age			
	55 +	55-64	65-74	75 +
	%			
1987				
Visiting the sick or elderly	67.1	65.9	67.1	70.9
Shopping, driving others	39.1	41.4	39.2	30.6
Baby-sitting	39.2	45.5	38.2	19.0
Writing letters, etc.	24.6	28.7	22.1	16.1
Housework	17.9	21.7	15.9	9.5
Yard or maintenance work	21.9	27.5	19.4	8.2
Operating a business or farm	6.9	8.1	5.5	5.8
Teaching or coaching	4.0	5.1	3.3	--
Helping in other ways	5.8	5.6	6.0	6.0
1997				
Visiting the sick or elderly	56.1	54.0	57.0	60.5
Shopping, driving others	49.1	54.8	45.0	41.1
Baby-sitting	48.6	52.3	51.3	31.7
Writing letters, etc.	30.1	36.6	26.0	19.8
Housework	29.4	35.9	24.8	20.2
Yard or maintenance work	28.4	35.4	26.7	11.1
Operating a business or farm	9.9	11.7	9.3	5.8
Teaching or coaching	7.1	8.5	6.7	--
Helping in other ways	11.0	12.4	9.4	10.1

Sources: *National Survey of Volunteer Activity; National Survey of Giving, Volunteering and Participating*

Seniors' involvement in both kinds of service decreased with age. Both were more popular in 1997 than 1987, by over 9 percentage points, for all seniors.

Letter writing and related services, housework, and yard and maintenance work involved 28% to 30% of informal volunteers in 1997. All increased over the 10-year period, especially housework (up 11 percentage points). These activities, however, tended to fall off with age, especially yard and maintenance work; in 1997, for example, 35% of young senior volunteers were involved, compared with only 11% of older informal volunteers.

Summary

Canadian seniors are far from a homogeneous group when it comes to volunteering: this activity declines with age and is much more prevalent among some groups than others. Reasons for volunteering or not volunteering, as well as the time offered, also differ markedly for the three age groups studied. The types of volunteer service provided also vary significantly by age group.

Some 26% of seniors aged 55 or over offered their services to voluntary organizations in 1997. Those in the Prairie provinces, Nova Scotia and New Brunswick, or in rural areas of all provinces were much more likely to do so.

Seniors with higher household incomes, with jobs, or with higher education were also more likely to volunteer, as were those enjoying good health or considering themselves to be very religious.

The most frequent reason for formal volunteering was belief in a cause, although the desire to use skills and experience was also often cited, especially by young seniors. Formal volunteers were most likely to be involved in activities that made good use of their experience: organizing or supervising events, sitting on boards, and canvassing, campaigning or fundraising.

The main deterrent to giving more time was lack of extra time, for young seniors in particular. Non-volunteers, especially those who were older or mid-years seniors, were most likely to mention health reasons for not volunteering. Young seniors stressed not having time to spare.

Seniors' rates of informal volunteering were much higher than those of formal volunteering, although people who volunteered formally were much more likely to offer informal services as well. Likewise, those volunteering informally were more likely to join organizations. This was the case for all age groups studied. Informal volunteers were most likely to provide two services important in an aging society: visiting the sick and the elderly (especially popular with mid-years and older seniors) and helping others with shopping (cited most often by young seniors).

Perspectives

■ Note

1 Some of these people would have died or emigrated, and immigrants would have replaced a few others.

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Appendix – "Other volunteering"

The 12 percentage-point increase from 1987 to 1997 in "other" forms of volunteering is much greater than the changes in specific services (Table 5). Part of the reason may be traced to the wording of the two questionnaires. In 1987, the question read: "In the past year did you do any unpaid activity not already mentioned? (If yes specify)." In 1997, the question read: "In the past 12 months did you volunteer any time in a way you have not mentioned yet? Please include help given to schools, religious organizations, community associations, etc." The examples given in the 1997 survey may have helped respondents remember other kinds of volunteering, and hence answer in the affirmative. It is impossible to estimate how much of the increase in "other volunteering" is attributable to the change of wording.

It is possible, however, to examine the types of volunteer organizations in which the "other activity only" was done. Most of these volunteers were in the culture and recreation, religious, and social services organizations (Table A). Their average time commitments were between 5 and 12 hours a month. In all age groups this category was at least 10 percentage-points higher in 1997 (Table B).

Adjusted 1997 volunteer rates, assuming that the 1987 ratio of other-to-total volunteers applies, are shown in Chart A (main text). For all age groups the adjusted rate is lower than the unadjusted. The difference is 3 percentage points for mid-years seniors, 4 points for young seniors, 5 to 6 points for non-seniors, and 5.1 percentage points overall.

Table A: Organizations benefiting from "other activity only" volunteer work

	1997		
	Weighted count	Sample count	Hrs./mo. (weighted)
Organization			
Culture and recreation	823,522	1,250	11.5
Religious	602,724	909	10.4
Social services	478,494	707	8.1
Health	244,574	352	7.8
Education and research	163,231	221	7.1
Development housing	117,672	198	6.3
Law, advocacy, political	84,379	109	8.5
Environmental	56,879	92	7.0
Philanthropic/voluntarism	35,613	56	5.2
Association/union	27,180	42	7.1
International	29,045	32	9.4
Other	20,998	27	--

Source: *National Survey of Giving, Volunteering and Participating*

Table B: "Other activity only" volunteers by age

	1987	1997	Difference
All ages	8.9	23.6	14.7
15-24	8.3	22.8	14.5
25-34	7.9	24.8	16.9
35-44	7.5	23.4	15.9
45-54	9.2	23.0	13.8
55-64	10.2	23.1	12.9
65-74	14.2	24.5	10.2
75 +	--	26.8	--

Sources: *National Survey of Volunteer Activity*; *National Survey of Giving, Volunteering and Participating*

Employment after childbirth

Katherine Marshall

Women have become an integral part of the labour market: their labour force participation is more constant today, even throughout the child-bearing years. This trend has both economic and social implications. Understanding women's work patterns can help employers manage birth-related work interruptions and, in the end, retain experienced employees.

The timing of the return to work after childbirth is also of concern to women themselves. Labour force attachment is linked positively to earnings and career opportunities (Phipps, Burton and Lethbridge, 1998). On the other hand, parental involvement, particularly through infancy, is essential to healthy child development (Belsky, 1990). These conflicting factors helped spur the development of Canada's maternity/parental leave benefit programs – programs that recognize the dual responsibilities of employed parents. Nevertheless, parents continue to struggle with these issues.

American research has found a number of factors relating to a mother's return to paid work, which fall into two broad categories: human capital and family status (Desai and Waite, 1991;

Wenk and Garrett, 1992; Joesch, 1994). This article includes aspects from both these theoretical frameworks.

The human capital approach suggests that women assess the economic value of their time at work and at home, and then choose one or the other based on cost-effectiveness. The cost of not returning to paid work is largely the lost after-tax income from employment.¹ The cost of not staying home includes child-care expenses and other household services. It is argued that women who have more invested in their human capital (education, training and work experience) are those most likely to have greater earnings and job status, and to return to work sooner. For that reason, variables such as age (proxy for experience), education, income, hours of work (job quality), job tenure, unionization (job quality), class of worker and occupation might be expected to influence the return to work.

The family status approach suggests that women make employment decisions based on family considerations. Findings have been less consistent in this area, partly because the influence of marital status and presence of children has changed over time. For example, marital status is now positively correlated with women's employment status. Today, a married woman's decision to return to work after childbirth may depend on how

involved her husband is at home and/or whether he is employed (and how much he earns). The more dependent the family is on the mother's earnings, the sooner she may return to work. The number and ages of dependent children at home may also influence the mother's decision, but the many possible combinations make interpretation difficult. For example, more than one child at home increases the financial needs of the family, but also means more day-care costs. These costs can vary depending on the children's ages. Family status variables included for analysis are marital status, employment status of spouse, mother's proportional contribution to family income and the number of preschool-aged children at home.

Both approaches hypothesize likely influences on a woman's return to work, but neither can account for individual preference. Some women may choose to stay at home even if it means relinquishing a well-paid job outside the home. Others may be willing to take on a low-paying position rather than remain out of the workforce any longer. The decision to return to work is complex, based not just on financial or family considerations but also on attitudes and emotions, which can be contradictory. Statistics Canada's General Social Survey found that although two-thirds of Canadian women agreed that an employed

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Data source and definitions

The Survey of Labour and Income Dynamics (SLID) is a longitudinal household survey that began in January 1993. Every three years some 15,000 respondents aged 16 to 69 enter the survey and remain for six years, completing two detailed questionnaires each year on labour market activity and income. Data used in this article are for people who entered the survey in 1993 and who responded for all four years, 1993 to 1996.

The **study population** comprises all births between April 1993 and December 1994 for which the mothers worked sometime during the last three months of pregnancy. If a woman gave birth a second time in the time period (12% did so), that birth was also included if she had worked during the last three months of pregnancy. The analysis is based on women who were in the survey for at least two years after giving birth.

Women were considered to have been **employed during pregnancy** if they reported at least one hour of work at a job or business in any of the three months prior to childbirth.

Return to work is the first month following the month of childbirth in which at least one hour of work at a job or

business was reported. (SLID offers monthly rather than weekly information on employment.) For example, if a woman reported a birth in March 1994, every month starting from (and including) April 1994 was examined for evidence of work hours. "Return to work by the end of the first month after childbirth" can technically include women who returned one week later (for example, those who gave birth in the last week of March and returned to work the first week of April) and those who went back seven weeks later (for example, those who gave birth the first week of March and returned the last week of April).

The **receipt of Employment Insurance (EI) or maternity benefits** variable examines the possible relationship between receiving maternity leave and returning to paid work. It relates only to the first six months after birth. Fully 80% of the women in the study population reported receiving EI benefits within the first six months. Although some may have been unemployed and looking for work, most were probably on maternity leave. Therefore, EI benefits and maternity leave benefits are used interchangeably throughout the article.

mother's relationship with her children was probably as secure as a stay-at-home mother's, half also agreed that a preschool-aged child would probably suffer if both parents were employed (Ghulam, 1997).

In addition to the human capital and family status variables, this study considers maternity leave benefits as a factor in women's rate of return to work. American studies have not been able to look at this, as no comparable program is available in the United States (see *International comparison of maternity leave*). The lack of such a benefit may be one reason American women return to work relatively quickly (43% within three months of birth) (Desai and Waite, 1991).

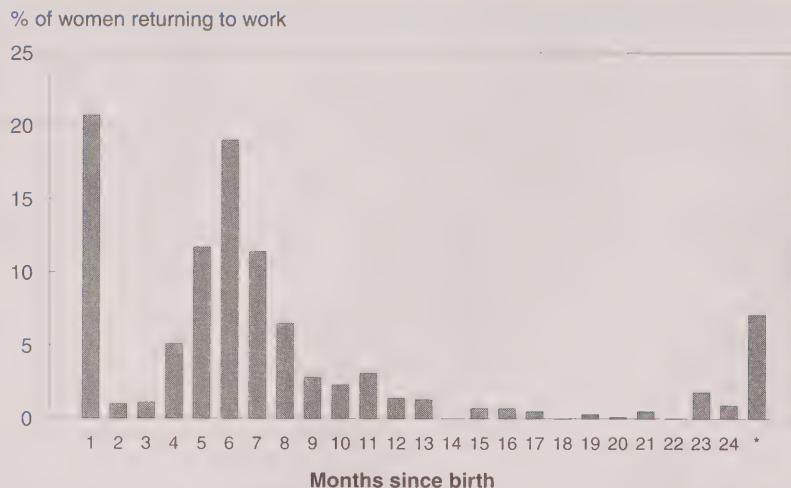
This article looks at the work patterns of employed women who gave birth in 1993 or 1994. It examines the timing of their return to paid work following a birth, and considers the characteristics of those who returned and those who did not. A number of job, personal and family characteristics are analyzed (see *Data source and definitions*).

Some first-time statistics

The longitudinal Survey of Labour and Income Dynamics (SLID) offers a unique source of information on the work patterns of women before and after

childbirth. The survey offers the following first-time findings for women who gave birth and returned to work within two years.²

- 16% of paid workers and 80% of the self-employed were back to work by the end of the first month after childbirth.
- The average time off work was 6.4 months.
- 83% returned to the same employer.
- 80% reported receiving Employment Insurance (EI) benefits after childbirth. A full 100% of the women who took six months off work reported receiving benefits, compared with only 40% of those who were back to work by the end of the first month after childbirth.
- Only 13% of paid workers did not receive EI, in contrast to 85% of the self-employed.³
- 89% returned to their previous work status (full-time or part-time), whereas 9% went from full-time to part-time and 2%, from part-time to full-time.
- The average work week was 33 hours before the birth and 32 after the return to work – reflecting a shift from full-time to part-time work for a minority of women, and a reduction of one-quarter of an hour for full-time workers.

Chart A: Many women return to work 5 to 7 months after birth.

Source: Survey of Labour and Income Dynamics, 1993-1996

* Not yet returned after two years.

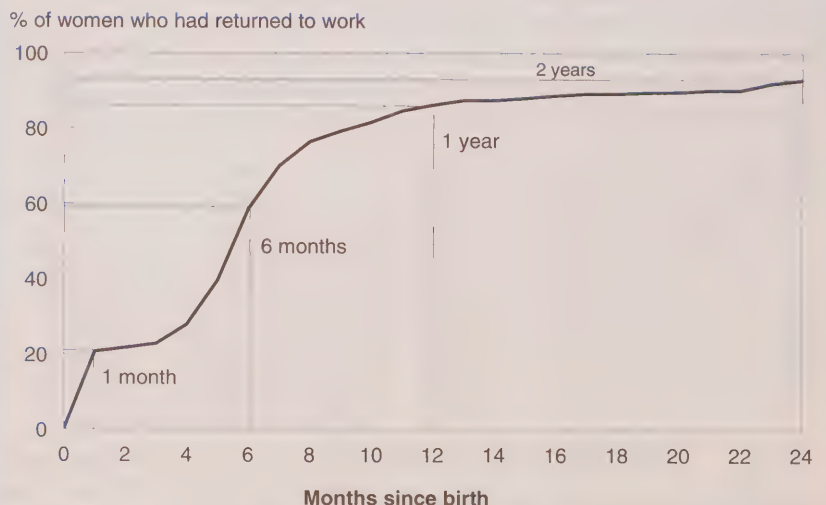
Vast majority back within two years

Of the 367,000 employed women who gave birth in 1993 or 1994, some 76,000 or 21% were back to work by the end of the first month after childbirth (Chart A) – 15% of paid workers (50,000) and 76% of the self-employed (26,000). (See *Absence from Work Survey* for a further comparison of paid workers.) In other words, almost one in five mothers took very little time off. Some 19% of women returned after six months, while another 12% did so after five, and 11% after seven. Given the flexibility of the start time of maternity leave, and a maximum 25-week combined paid maternity and parental leave, it is not surprising that a large proportion of women returned to work around the sixth month after childbirth (see *EI benefits*). The percentage of mothers who had returned to work increased strongly until the eighth month,

after which it levelled off considerably (Chart B). Within a year's time, 86% of mothers had returned to work, and by two years a full 93% were back to paid work.

Self-employment and no maternity leave linked to quick return

This study examined the differences between mothers who returned to work almost immediately after childbirth, that is, by the end of the first month after the birth, and those who did so between 2 and 24 months after. Women who returned to work by the end of the first month had worked less time at their last job (42 months versus 52) (Table 1). A smaller percentage worked in a unionized job (15%, compared with 38%) and a greater percentage worked part time (43%, compared with 24%). Large differences existed by class of worker and maternity leave benefits. Some 34% of early returnees were self-employed, compared with just 2% of those who returned later. Also, 60% of those back by the end of the first month had received no Employment Insurance benefits,

Chart B: The percentage of mothers who return to work rises rapidly for the first 8 months after a birth.

Source: Survey of Labour and Income Dynamics, 1993-1996

Table 1: Characteristics^a of employed women who returned to work within two years of giving birth

	Returned to work within 2 years			Statistically significant difference	Odds ratio of returning within one month ^b
	Total	Within one month	After 2 or more months		
Total	100%	21%	79%		
Human capital and job characteristics					
Average age	30	30	30	no	...
Education: high school or less	36%	41%	35%	no	...
Median income	\$25,700	\$25,600	\$25,700	no	...
Usual weekly hours	33	30	34	no	...
Median tenure (months)	49	42	52	yes *	1.2 ns
Unionized	33%	15%	38%	yes ***	0.6 ns
Self-employed	9%	34%	2%	yes ***	7.7 *
Professional, managerial or technical occupation ^c	43%	44%	43%	no	...
Part-time work	28%	43%	24%	yes *	1.7 ns
No maternity benefits	20%	60%	9%	yes ***	5.7 ***
Family or personal characteristics					
Children <6 at home	1.6	1.7	1.6	no	...
Spouse present	96%	93%	97%	no	...
Employed spouse present	93%	85%	94%	no	...
Income as % of family income	45%	45%	44%	no	...

Source: Survey of Labour and Income Dynamics, 1993-1996

* Statistically significant at the .05 level; ** at the .01 level; *** at the .001 level.

ns Not significant.

^a Refers to the time of birth or of last job held before birth; for births in 1993 or 1994.

^b The odds ratios are generated from logistic regression (see Logistic regression). The ratios indicate whether the variables included in the model increase or decrease the odds of returning to work within one month after childbirth (that is, by the end of the month following the month of childbirth), controlling for the other variables in the model. Only variables that were statistically significant in the cross-tabulations were included in the model.

^c Based on the Pineo-Porter-McRoberts socioeconomic classification of 4-digit occupations into homogeneous groups.

Absence from Work Survey

Statistics Canada's Absence from Work Survey (AWS) can provide some data on maternity leave absences and compensation. An annual supplement to the Labour Force Survey, it asks paid workers about financial compensation for any illness-, accident- or pregnancy-related work absence that lasted two weeks or longer during the past year. The AWS found that 10% of paid workers were back to work two to seven weeks after giving birth in the 1993-94 period, compared with 15% for SLID. However, the AWS excludes those who took no time off work or took a leave of less than two weeks. Both surveys show an average absence of roughly five and a half months, and a maternity leave claim rate of around 85%.

Pregnancy-related employment leave and compensation

Paid workers 1993-1994	AWS	SLID
Quick return to work*	10%	15%
Average time off work**	5.5 months	5.4 months
Received EI after birth	85%	87%
EI only	71%	...
EI plus employer or other compensation	14%	...

Sources: Absence from Work Survey, 1993-1994; Survey of Labour and Income Dynamics, 1993-1996

* For the AWS this refers to all leaves of 2 to 7 weeks during pregnancy and/or after birth; for SLID it refers to leaves of 0 to 7 weeks after birth.

** Based on an absence of one year or less.

EI benefits

Major amendments to the *Unemployment Insurance Act* in 1971 brought in a wide range of benefits, including paid maternity leave for women. This leave entitles eligible women to a basic benefit of 55% of average insured earnings up to a maximum \$413 per week for a maximum of 15 weeks around the birth of a child. Maternity benefits usually start with the week of birth, but can be collected up to 8 weeks before the anticipated date. Payments start after a 2-week waiting period. Eligibility rules changed

with the *Employment Insurance Act* of January 1997, increasing the minimum number of work hours in the past 52 weeks from 300 to 700.

Since 1990, eligible parents have also been entitled to 10 weeks' parental leave with the birth or adoption of a child. This leave can be taken by one parent or can be shared (if both parents are eligible) any time up to 52 weeks after the child arrives home; however, most of those who apply for the leave are mothers.

compared with just 9% of those who returned later.

Early and later returnees did not differ significantly in age, occupation, income (both personal and as a percentage of family income), marital status, education, usual hours of work, or number of children under six at home.⁴

A number of these factors may be interrelated. For example, women who returned to work by the end of the first month after childbirth were more likely than others to work part time. These jobs may not have included such benefits as coverage from Employment Insurance.⁵

In order to test which factors influence an early return to work when others are controlled for, this study used logistic regression (see *Logistic regression*). When this technique was applied, only two variables were found to be statistically significant predictors: class of worker and the receipt of maternity benefits. The odds of the mother's returning to work by the end of the first month were almost six times higher when she did *not* receive maternity leave benefits. Also, the odds of returning early were almost eight times higher for the self-employed than for employees.

In contrast to American findings, this study found no relationship between income and return to work. EI appears to negate the influence of income, even though it replaces only 55% of previous earnings, with a ceiling.⁶ So the net direct "cost" of not returning to work is at least 45% of previous earnings, which can be substantial, depending on previous earnings. However, maternity leave is a program that eligible women of all earning levels must decide to take or to forfeit. Compensation of 55% may be sufficient to encourage some women to remain at home regardless of previous earnings.

Logistic regression

This technique was used for predicting a quick return to paid work after childbirth (by the end of the first month after birth). The dichotomous dependent variable in this case was quick return (quick return = 1 and non-quick return = 0). This technique isolates each variable in the model and reveals its relationship with the probability of a quick return, while holding all other explanatory variables constant. One calculation from this analysis is the odds ratio, which indicates whether certain variables increase or decrease the chances (odds) of a quick return.

It is not surprising to find self-employment linked to an early return to work. Self-employed women tend to experience a double financial loss if they take a leave after childbirth. First, most do not receive maternity leave benefits, and second, depending on the business, some may have to hire a replacement during their absence, which could be costly as well as difficult.

Those who don't return have less to lose

This study also looked at women who had not returned to paid work after two years. Although this group may have been in the majority in the 1950s, they represented only 7% of all women who gave birth in the early 1990s.

Consistent with the human capital argument, women who did not resume paid work within two years after childbirth had "invested" less in their career than those who had returned to work. For example, although some differences were not statistically significant,⁷ non-returnees were more likely to have been working part time (38% versus 28%), less likely to have been in a unionized job (16% versus 33%), and less likely to have left a professional job

Table 2: Characteristics^a of women who had and had not returned to work two years after giving birth

	Total who gave birth	Returned within 2 years	Had not yet returned	Statistically significant difference
Total	100%	93%	7%	
Human capital and job characteristics				
Average age	30	30	28	no
Education: high school or less	36%	36%	36%	no
Median income	\$25,600	\$25,600	\$16,700	no
Usual weekly hours	33	33	31	no
Median tenure (months)	46	49	26	no
Unionized	32%	33%	16%	yes
Self-employed	9%	9%	8%	no
Professional, managerial or technical occupation ^b	42%	43%	30%	no
Part-time work	28%	28%	38%	no
No maternity benefits	20%	20%	25%	no
Family or personal characteristics				
Children <6 at home	1.6	1.6	1.3	yes
Spouse present	95%	96%	70%	yes
Employed spouse present	93%	93%	87%	no
Income as % of family income	44%	45%	38%	yes

Source: Survey of Labour and Income Dynamics, 1993-1996

^a Refers to the time of birth or of last job held before birth; for births in 1993 or 1994.

^b Based on the Pineo-Porter-McRoberts socioeconomic classification of 4-digit occupations into homogeneous groups.

(30% versus 43%) (Table 2). Furthermore, those who had not returned had, on average, spent less time at their last job than those who had returned (26 versus 49 months), and recorded lower median earnings (\$16,700 versus \$25,600). With day-care costs subtracted from modest earnings, these women would have had little financial incentive to return to work. Also, compared with those who had returned, they were younger, had fewer children under age six at home, and were more likely to be unmarried. Some 30% of non-returnees were on their own

(living without a partner), compared with just 4% of the women who returned to work. Managing child-care and household responsibilities without a partner may have made it too difficult for some to perform paid work as well.

Summary

This study found that between 1993 and 1996, about 60% of women returned to paid work within six months of giving birth. After one year, almost 9 in 10 women had returned to work. Those who had returned had more

“human capital and career investment” than those who had not, and were more likely to be living with a partner. For example, compared with women who had left the labour force for an extended period (two years or more), those who had returned had higher income, higher job status, and longer tenure at their last job; they were also more likely to be in a unionized job.

The potential for major loss of income spurred early return to work. Women who did not receive maternity benefits and women who were self-employed returned more quickly than those who received benefits or who were paid workers.

This study shows that most women combine employment and parenthood within months of giving birth, confirming the strong labour force attachment of women today. Because the dynamics of women's work patterns affect both families and employers, an understanding of these work patterns is crucial for the development of up-to-date workplace and family policies.

Perspectives

Acknowledgement

The author wishes to thank Philip Giles, Income Statistics Division, for assistance with data retrieval, and Georgia Roberts, Social Survey Methods Division, for methodological advice.

International comparison of maternity leave

As do most other industrialized countries, Canada offers paid maternity and parental leave programs with the birth or adoption of a child. Canada is more generous with these programs than the United States and the United Kingdom, as the former offers no paid leave programs and the latter provides no parental leave program. Even so, Canada

offers relatively low earnings replacement (55%) and a shorter maximum total leave time (25 weeks) than most other jurisdictions considered. Furthermore, unlike Finland, Germany and Sweden, it offers parental paid leave only to those who have recent labour market experience.

Government-sponsored maternity, paternity and parental paid leave programs for selected jurisdictions

	Canada	Belgium	United Kingdom	Finland	France	Germany	Sweden	United States
Maternity leave								
Eligibility	Previous employment with contributions	Previous employment with contributions	Previous employment with contributions	Universal	Previous employment with contributions	Previous employment with contributions	Falls under <i>Parental leave</i> unless sick	na
Duration	15 weeks	14 weeks	18 weeks	18 weeks	16-26 weeks*	14 weeks	Up to 15 wks sick leave	na
Compensation	55% of previous earnings	75%-80% of previous earnings	90% of previous earnings for 6 weeks, then flat rate	80% of previous earnings or flat rate	84% of previous earnings	100% of previous earnings	80%-90% of previous earnings	na
Paternity leave								
Eligibility	na	na	na	Universal	na	na	Universal	na
Duration	na	na	na	1-2 weeks	na	na	10 days	na
Compensation	na	na	na	80% of previous earnings or flat rate	na	na	90% of previous earnings or flat rate	na
Parental leave								
Eligibility	Either parent, previous employment with contributions	Both parents, previous employment	na	Either parent, universal	Either parent, previous employment	Both parents, universal	Either parent, universal	na
Duration	10 weeks	6-12 months	na	6 months	24 months	24 months	15 months	na
Compensation	55% of previous earnings	18% of average industrial earnings	na	80% of previous earnings or flat rate	46% of base wage for 9 months**	About 15% of median industrial earnings	90% of previous earnings or flat rate	na

Source: Human Resources Development Canada, 1995

* 16 weeks for those with fewer than three children and 26 weeks for those with three or more.

** Means-tested thereafter.

na Not applicable.

■ Notes

1 Other costs of not returning to paid employment include the depreciation in job-related skills and/or lost opportunities for building further skills, both of which may affect future earnings. Neither of these costs can be assessed with SLID data.

2 Refers to women who worked prior to pregnancy and were in the survey for at least two years after giving birth (for more information see *Data source and definitions*).

3 A minority (15%) of the self-employed reported receiving EI. Most of this small group would probably have been incorporated business owners who made EI insurance contributions.

4 The lack of statistical significance could be partly attributable to the small sample sizes.

5 The Employment Insurance eligibility rules for part-time workers changed in January 1997. Before this date part-time workers were eligible to claim EI if they had worked at least 15 hours per week in the past 20 weeks. Since then, while their number of weekly hours is no longer stipulated, part-timers must have worked at least 700 hours in the past 52 weeks in order to be eligible for EI.

6 Findings from the Absence from Work Survey show that 71% of women in paid work received EI as their only form of compensation, while 14% received both EI and compensation from their employer or elsewhere.

7 The small sample size for non-returnees reduces the ability to produce statistically significant results. A larger sample size might increase the number of variables with estimates that show statistical significance. It would also be useful to apply logistic regression as a way to determine the key factors for leaving the labour force for at least two years, but the sample size of the women in question is too small for this type of analysis.

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Baby boom women – then and now

Louise Earl

Have baby boom women had an easier path through the labour market than women a generation older or younger? This article studies the labour market “success” of baby boom women by looking at their situation in 1977 and 1997 and comparing it with that of the preceding and succeeding generations. Four indicators are used in this study: labour force participation; full-time employment; unemployment; and full-year full-time earnings. (All earnings are in 1997 dollars; see *Data sources and definitions*.)

The women studied were born between 1948 and 1952, during the first wave of the postwar baby boom.¹ Aged 25 to 29 in 1977, these women are compared with women aged 45 to 49 in that year – that is, women born between 1928 and 1932, who went through their early childhood at the beginning of the Depression. The older group would have been 25 to 29 during the 1950s, when the idea of a conventional single-earner family held sway in North America.² Those who had been part of the paid workforce would not have been encouraged to continue their careers after childbirth.

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Women born between 1968 and 1972,³ often labelled “Generation Xers,” are also thought to have entered the labour market on a rockier road than the path travelled by baby boomers (Betcherman and Morissette, 1994; Osberg, Erksoy and Phipps, 1998). These women formed the 25-to-29 age group in 1997.

Labour market changes

Between 1977 and 1997, the Canadian economy changed considerably. The period experienced two recessions, the second of which was followed by a recovery with slightly higher unemployment rates. Self-employment and service-sector employment, both of which tend to offer lower average earnings, increased over the two decades as well.

Many studies have shown that the labour market of today has not been easy on youths. High unemployment has led to a lowering of entry-level wages (Betcherman and Morissette, 1994; Osberg, Erksoy and Phipps, 1998) and a higher proportion of young adults working part time. The 1980s and 1990s also recorded increases in the proportion of dual-income families, highlighting women’s increased attachment to the labour force and the need for more than one income to support a family.⁴

Labour market success of baby boom women in 1977

University-educated baby boomers poured into a welcoming labour market during a time of economic expansion. In 1977, almost 6 of every 10 baby boom women were in the labour force (Table 1).⁵ In contrast, only 53% of women aged 45 to 49 were in the labour force that year. Furthermore, a far higher proportion of employed 25-to-29 year-old women worked full time – 83%, compared with 74% of 45-to-49 year-olds – suggesting that baby boomers may have been less likely to have family-related responsibilities.⁶

Unemployment rates show that baby boom women, although faring well, were not as successful as middle-aged women in 1977. Their unemployment stood at 9.0% – more than 2 percentage points higher than for women aged 45 to 49. (New entrants to the labour market do, however, tend to have higher unemployment rates.) But education played a key role. Women aged 25 to 29 with university degrees had a significantly lower unemployment rate, 5.3% in 1977, and their 45-to-49 year-old counterparts registered just 3.7%.

In 1977, baby boom women working full year full time earned \$28,100 (1997\$), just slightly more than the \$27,000 earned by women

Data sources and definitions

Earnings data are from the Survey of Consumer Finances, and labour force characteristics, from the Labour Force Survey.

Earnings consist of annual wages and salaries and/or net income from self-employment, for full-year full-time work. The full-year full-time measure minimizes differences in the amount of paid work done over the course of a year. A more accurate measurement would be hourly wages, but these were not available for 1977 and are not calculated for the self-employed.

Full-year full-time work is mostly 30 hours or more per week for 49 to 52 weeks in the year.

The **participation rate** for a particular group is the labour force expressed as a percentage of the population for that group.

Unemployed persons are those who, during the reference week,

- were without work, had actively looked for work in the past four weeks and were available for work;
- had not actively looked for work in the past four weeks but had been on layoff and were available for work;
- had not actively looked for work in the past four weeks but had a new job to start in four weeks or less and were available for work.

The **unemployment rate** for a particular group (for instance, women aged 25 to 29) is the number unemployed expressed as a percentage of the labour force for that group.

aged 45 to 49, even though they worked fewer hours: 1,967 hours annually, compared with 2,059. This suggests that young women's skills may have been in greater demand.⁷ Indeed, a larger proportion had more formal education than the preceding generation

of women. Over 15% of baby boomers in the 1977 labour force held university degrees, compared with only 6% of women aged 45 to 49. The converse held true for the proportion with less than high school: only 6%, compared with 24%.

Table 1: Indicators of labour market success, 1977 and 1997

	1977				1997			
	Baby boom women, 25-29	Baby boom men, 25-29	Women, 45-49	Men, 45-49	"Genera- tion X" women, 25-29	"Genera- tion X" men, 25-29	Baby boom women, 45-49	Baby boom men, 45-49
%								
Labour force characteristics								
Participation rate	59.0	94.3	52.7	93.6	77.9	90.5	76.8	90.6
Less than Grade 9	6.0	8.6	23.6	32.7	1.1	2.0	5.2	5.6
University degree	15.5	17.5	6.0	9.5	27.1	20.3	19.0	23.1
Unemployment rate	9.0	7.0	6.6	4.4	8.7	10.5	6.5	6.6
With less than Grade 9	17.3	13.0	8.9	7.1	20.9	32.2	10.6	14.2
With university degree	5.3	3.6	3.7	1.6	5.8	6.3	3.5	4.3
Employed labour force								
Employed full time	83.4	97.3	74.0	98.5	78.1	92.5	77.4	96.1
Average annual earnings								
1997\$								
Full-year full-time paid workers and self-employed	28,100	38,900	27,000	47,200	27,700	34,800	33,200	46,700

Sources: Labour Force Survey; Survey of Consumer Finances

Baby boom women with degrees earned an average \$37,100 in 1977, compared with \$26,300 for those with less than university. However, compared with graduates in the older group, they earned 85 cents for every dollar (Table 2), perhaps reflecting their lack of work experience.

Based on the intergenerational earnings gap measure – comparisons of labour force participation rates and full-time employment – baby boom women were more successful than women a generation older in 1977. The only measure of labour market success in which they did not do as well as women aged 45 to 49 was in finding employment. However, this is not unexpected, since breaking into the labour market presents unique difficulties.

Baby boom women in 1997

In 1997, baby boomers were aged 45 to 49. For the most part their childbearing years had passed, but family-related responsibilities continued. This “sandwich generation” may have had to look after older relatives while continuing to raise children. Despite these non-labour market duties, these women had increased their labour force participation since 1977, from 59% to 77%. Their unemployment

rate had declined over the two decades to 6.5% – matching the rate for women aged 45 to 49 in 1977.

A lower proportion of employed baby boom women worked full time in 1997: 77%, compared with 83% in 1977. However, those who did work full year full time averaged more hours: 2,033, compared with 1,967. And a greater proportion had university degrees by 1997 (19% versus 15%).

Based on average job tenure, women aged 45 to 49 in 1997 had more work experience than similarly aged women in 1977: almost 12 years, compared with just over 8, which may explain in part their higher annual earnings (\$33,200 versus \$27,000).

Baby boomers and “Generation X”

In 1997, some 78% of Generation X women (aged 25 to 29) and almost the same proportion of baby boom women (aged 45 to 49) participated in the labour force (77%). This shows an intergenerational levelling of women’s labour force attachment in the late 1990s.

Full-time employment was not as plentiful as it had been in 1977. Even so, similar proportions of baby boom (77%) and Generation X women (78%) worked full time in 1997. (Many women choose to work part time, citing personal preference or family responsibilities as the reason.) As expected, baby boom women had a lower unemployment rate than the younger group, reflecting the latter’s relatively brief work experience.

Educational attainment may have some bearing on the similarities between these two generations. Only a negligible proportion of the younger group had less than high school, while 27% were university-educated. This compares with 5% and 19% of baby boom women.

Baby boom women out-earn “Gen Xers”

In 1997, Generation X women earned 83 cents for every dollar earned by baby boom women. The latter worked longer paid hours: an average 2,033 hours in 1997, about a week more than Generation X’s 2,001. But the gap was 60 hours narrower than it had been between the groups compared in 1977.

The work experience of Generation X women (46 months) was similar to that of baby boom women in their early careers (50 months) (Table 3).

Table 2: Annual average earnings ratios

	1977	1997
Overall		
Women 25-29 to women 45-49	1.04	.83
Women 25-29 to men 25-29	.72	.80
Women 45-49 to men 45-49	.57	.71
Men 25-29 to men 45-49	.82	.74
With university degree		
Women 25-29 to women 45-49	.85	.66
Women 25-29 to men 25-29	.86	.82
Women 45-49 to men 45-49	.59	.79
Men 25-29 to men 45-49	.58	.64
With less than university education		
Women 25-29 to women 45-49	1.04	.86
Women 25-29 to men 25-29	.69	.76
Women 45-49 to men 45-49	.58	.69
Men 25-29 to men 45-49	.87	.79

Source: *Survey of Consumer Finances*

Table 3: Job tenure and annual average hours of work for full-year full-time paid workers and self-employed

	1977	1997
Women 25-29		
Job tenure (months)	50	46
Annual hours	1,967	2,001
Women 45-49		
Job tenure (months)	98	142
Annual hours	2,059	2,033
Men 25-29		
Job tenure (months)	49	46
Annual hours	2,180	2,197
Men 45-49		
Job tenure (months)	168	160
Annual hours	2,285	2,253

Source: Survey of Consumer Finances

* Annual average hours are calculated by multiplying the average number of actual weekly hours by the number of weeks worked for each full-year full-time paid worker and self-employed person.

Both groups had similar participation and full-time employment rates in 1997. However, the younger women had greater problems finding employment. This could reflect young people's difficulties in entering the labour market of the 1990s (Betcherman and Morissette, 1994).

Conclusion

Compared with women 20 years older and 20 years younger, baby boom women have done well in the labour market over the years. These women aged 25 to 29 in 1977 began their careers by out-earning women 20 years older. Twenty years later they out-earned female Generation Xers aged 25 to 29. Though their full-time employment rate has declined as they have aged, baby boom women have increased their participation in the labour force over two decades and experienced a reduction in their age-specific unemployment rate. Taken together, these indicators point to the continued relative success of this group.

Perspectives

Notes

- 1 See Galarneau (1994b) for a definition of first-wave baby boom women.
- 2 This belief was so entrenched in the economy that it was not until 1968 that 50% of a wife's "salaried income" could be considered as income in a couple's application for a mortgage (CMHC, 1988).
- 3 In Galarneau (1994a), women born between 1966 and 1975 are identified as part of the "post-baby boom."
- 4 See Statistics Canada (1994) for further information.
- 5 To provide context and balance, labour market information on men is available in the tables. For a discussion of the wage difference between the sexes, see Gunderson (1998).
- 6 Baby boom women delayed pregnancy and marriage (Galarneau, 1994a).
- 7 Baby boom women were concentrated in clerical occupations; however, members of the first wave were moving into professional occupations, including health and education (Galarneau, 1994a).

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Missing work in 1998 – industry differences

Ernest B. Akyeampong

With the advent of the North American Free Trade Agreement (NAFTA), Canada, the United States and Mexico agreed upon a new industrial classification system, namely, the North American Industry Classification System (NAICS). Its major objectives are to facilitate comparisons between NAFTA members, to accommodate industries that have emerged in the past two decades, and to acknowledge the growing importance of the service sector.

This article examines work absence rates according to NAICS (see *Comparing SIC 1980 and NAICS*),¹ focusing on 1998.² It provides a brief overview of absence levels for 1997 and 1998, and a detailed examination of industry differences in the latter year.

Work absences rose in 1998

The proportion of full-time employees missing work for personal reasons (“own illness or disability” and “personal or family responsibilities”) during each week rose between 1997 and 1998, as did average days lost per employee over the course of the year (see *Data source, definitions and measurements*). In 1998, an estimated 5.7% (525,000) of all full-time employees were absent from work for all or part of any given week for personal reasons, up from 5.5% a year earlier (Table 1). As a result of these absences, approximately 3.1% of usual weekly work time was lost (inactivity rate) in 1998, also up slightly from 3.0%. This translates into an increase of nearly half a day per full-time employee – from 7.4 to 7.8. Stated differently, employees missed approximately 72 million workdays because of personal reasons in 1998, up from 66 million in 1997.

All of the increase in incidence (0.2 percentage points) over the period was due to illness or disability,

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Data source, definitions and measurements

The data in this article are annual averages from the Labour Force Survey (LFS). They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunity to arrange their work schedules around personal or family responsibilities. Multiple jobholders, too, are excluded because it is not possible, using LFS data, to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. Employed persons on long-term illness or disability leave (exceeding one year) are included.³

Personal reasons for absence are split into two categories: “own illness or disability” and “personal or family responsibilities” (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two reasons represented about 26% of all time lost by full-time paid workers each week in 1998. Vacations, which accounted for about 46% of total time away from work, are not counted in this study, nor are statutory holidays, which represented 13%. Maternity leave represented 7% and other reasons, 9%.

The **incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating incidence, the length of work absence – whether an hour, a day, or a full week – is irrelevant.

The **inactivity rate** shows hours lost as a proportion of the usual weekly hours of full-time paid workers. It takes into account both the incidence and length of absence in the reference week.

Days lost per worker are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250).

as was the 0.4 rise in days lost per employee (its largest annual jump for this reason since 1980). In 1998, the work absence rate among full-time employees due to illness or disability stood at 4.3%, and average days

missed for that reason at 6.6. In contrast, for both 1997 and 1998 the rate and work time missed per employee on account of personal or family responsibilities were 1.4% and 1.2 days, respectively.

Men's rates up: women's unchanged

Virtually all the increase in overall incidence of absence and workdays lost in 1998 can be traced to a rise in men's absence due to illness or disability. Even so, men continued to report work absences less often than women, and missed less time when they did so, whether for illness or disability, or for personal or family responsibilities. For example, male full-time employees lost on average 6.9 workdays (5.9 for illness or disability and 1.0 for personal or family responsibilities). This compares with an average 9.2 days missed by their female counterparts that year (7.7 and 1.5, respectively) (Table 1).

Time lost varies by industry

The nature and demands of a job, the composition of the workforce, and the percentage of employees belonging to a union or covered by collective agreement all contribute to variations in work absence rates by industry.

Generally, the more physically demanding and/or hazardous the job, the higher the illness or disability absence rate (Haggag-Guénette, 1988 and Haggag-Guénette and Proulx, 1992). And, as can be inferred from the earlier findings, the higher the proportion of women in an industry, the greater the likelihood of absence for both illness or disability and personal or family responsibilities. Finally, workdays lost on account of illness or disability by unionized employees (almost all of whom are entitled to paid sick leave) are almost twice those of non-unionized employees (Akyeampong, 1998).

With these generalizations in mind, how did the major industries compare in 1998? ⁴

At the highest level of aggregation, the incidence of work absence was identical in both goods- and service-producing industries in 1998. Approximately 5.7% of full-time employees in both sectors reported some absence every week for personal reasons (Table 2). However, because illness or disability among goods sector workers (especially in manufacturing) resulted in more lost work time, average days missed for that reason exceeded those in the service sector (6.9 versus 6.5). And as both sectors lost 1.2 days per worker on account of personal or family responsibilities, total workdays missed for both reasons by full-time employees in the goods sector (8.1 days) exceeded the 7.7 days for workers in the service sector.

Table 1: Absence rates of full-time employees by sex, 1997 and 1998

	Incidence *			Inactivity rate **			Days lost per worker in a year †		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Both sexes									
1997	5.5	4.1	1.4	3.0	2.5	0.5	7.4	6.2	1.2
1998	5.7	4.3	1.4	3.1	2.6	0.5	7.8	6.6	1.2
Men									
1997	4.6	3.4	1.2	2.5	2.1	0.4	6.3	5.3	0.9
1998	4.9	3.7	1.2	2.8	2.3	0.4	6.9	5.9	1.0
Women									
1997	6.7	5.1	1.7	3.7	3.0	0.6	9.1	7.6	1.5
1998	6.7	5.1	1.6	3.7	3.1	0.6	9.2	7.7	1.5

Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Comparing SIC 1980 and NAICS

The new classification system (NAICS) differs from the Standard Industrial Classification (SIC 1980) in a number of important respects. It groups industries in terms of common inputs and processes, rather than outputs, the basis for the earlier classification. It also accommodates industries that have emerged since the 1970s. Finally, service industries, which account for about three-quarters of employment and a large share of national output, play a more prominent role in the new classification.

A detailed account of NAICS can be found at the Statistics Canada Internet address:

www.statcan.ca/english/Subjects/Standard/index.htm.

The new classification system has six levels of detail, but the LFS uses only four. This provides roughly the same level of detail as the SIC 1980.

Both classification schemes are hierarchical in structure, composed of sectors, subsectors, industry groups and industries. At the highest level of aggregation, NAICS has 20 sectors, compared with 18 divisions in the SIC 1980. This level is still too detailed to provide reliable seasonally adjusted estimates for all provinces. The LFS groups some of the sectors (divisions), leaving 16 categories for monthly, seasonally adjusted publication. While some NAICS and SIC group titles are the same, the detailed industries represented are different.

Construction, for example, is a division of the SIC 1980 and a sector in NAICS. In the SIC 1980, it includes the inspection of buildings and landscaping activities but excludes street and highway repairs. In NAICS, it excludes building and landscaping inspection but includes

street and highway repairs. Consequently, direct comparisons cannot be made. (For comparison tables, see Akyeampong, 1999.)

Seasonally adjusted industry detail from the Labour Force Survey

SIC 1980	NAICS
Goods-producing	Goods-producing
Agriculture	Agriculture
Other primary	Forestry, fishing, mining, oil and gas
Logging and forestry	Utilities
Fishing and trapping	Construction
Mining, quarrying and oil wells	Manufacturing
Utilities	
Construction	
Manufacturing	
Service-producing	Service-producing
Transportation, storage and communication	Transportation and warehousing
Trade	Trade
Wholesale	Finance, insurance, real estate and leasing
Retail	Information, culture and recreation
Finance, insurance and real estate	Educational services
Community, business and personal services	Health care and social assistance
Education	Professional, scientific and technical
Health and social services	Management, and administrative and support services
Business and personal services	Accommodation and food
Accommodation, food and beverage	Other services
Public administration	Public administration

At the major industry (2-digit) level some variations were noteworthy. For both personal reasons combined, full-time employees who lost the most time (12.8 days) were in health care and social assistance, a highly unionized industry believed to be relatively stressful and having a large proportion of female workers. They were followed by those in transportation and warehousing, a relatively hazardous and heavily unionized

industry (9.4); public administration, also heavily unionized and with a high concentration of female employees (9.4); and manufacturing (8.5). Workers who lost comparatively little time were in the professional, scientific and technical industries (4.6 days); accommodation and food services (5.7); and agriculture (5.8).

Most of these variations can be traced to illness or disability. In 1998, health care and social assist-

ance employees missed 11.3 workdays for this reason, while those in transportation and warehousing lost 8.1, public administration, 8.0, and manufacturing, 7.3. In contrast, workers lost little time in the professional, scientific and technical industries (3.4 days); agriculture (4.7); and accommodation and food services (4.8).

Workdays missed on account of personal or family responsibilities ranged from 0.9 to 1.6 among

Table 2: Absence for personal reasons by industry, full-time paid workers, 1998

	Incidence *			Inactivity rate **			Days lost per worker in a year †		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
		%			%			days	
All industries	5.7	4.3	1.4	3.1	2.6	0.5	7.8	6.6	1.2
Goods-producing	5.7	4.2	1.5	3.2	2.8	0.5	8.1	6.9	1.2
Agriculture	4.5	3.0	--	2.3	1.9	--	5.8	4.7	--
Forestry, fishing, mining, oil and gas	4.8	3.7	1.1	2.8	2.4	0.4	7.1	6.0	1.1
Utilities	5.5	4.0	1.5	2.7	2.3	0.4	6.8	5.8	1.0
Construction	5.3	3.9	1.4	3.1	2.6	0.5	7.6	6.5	1.1
Manufacturing	6.0	4.5	1.5	3.4	2.9	0.5	8.5	7.3	1.2
Durable	6.1	4.5	1.5	3.4	2.9	0.5	8.5	7.3	1.2
Non-durable	6.0	4.4	1.6	3.4	2.9	0.5	8.6	7.3	1.3
Service-producing	5.7	4.3	1.3	3.1	2.6	0.5	7.7	6.5	1.2
Trade	4.9	3.7	1.3	2.6	2.1	0.4	6.4	5.4	1.1
Wholesale	5.0	3.7	1.3	2.5	2.1	0.4	6.2	5.2	1.0
Retail	4.9	3.7	1.2	2.6	2.2	0.4	6.5	5.4	1.1
Transportation and warehousing	5.7	4.4	1.3	3.8	3.2	0.5	9.4	8.1	1.3
Finance, insurance, real estate and leasing	5.2	3.8	1.4	2.5	2.1	0.4	6.3	5.2	1.1
Finance and insurance	5.2	3.9	1.3	2.6	2.2	0.4	6.6	5.5	1.1
Real estate, rental and leasing	4.9	3.5	1.4	2.2	1.8	0.4	5.4	4.5	0.9
Professional, scientific and technical	4.8	3.2	1.6	1.8	1.4	0.5	4.6	3.4	1.2
Management, and administrative and support services	5.4	4.0	1.4	2.9	2.4	0.5	7.4	6.0	1.4
Educational services	5.5	4.3	1.2	3.0	2.5	0.6	7.6	6.2	1.4
Health care and social assistance	8.2	6.7	1.4	5.1	4.5	0.6	12.8	11.3	1.6
Information, culture and recreation	5.0	3.6	1.3	2.4	2.0	0.4	6.1	5.1	1.0
Accommodation and food services	4.3	3.3	0.9	2.3	1.9	0.4	5.7	4.8	0.9
Other services	5.1	3.7	1.5	2.7	2.2	0.5	6.8	5.4	1.4
Public administration	6.9	5.3	1.5	3.8	3.2	0.5	9.4	8.0	1.4
Federal	8.0	6.0	2.0	4.1	3.4	0.6	10.2	8.5	1.6
Provincial	7.0	5.7	1.3	4.0	3.5	0.5	10.1	8.9	1.2
Local, including other	5.7	4.3	1.3	3.3	2.7	0.5	8.2	6.9	1.3

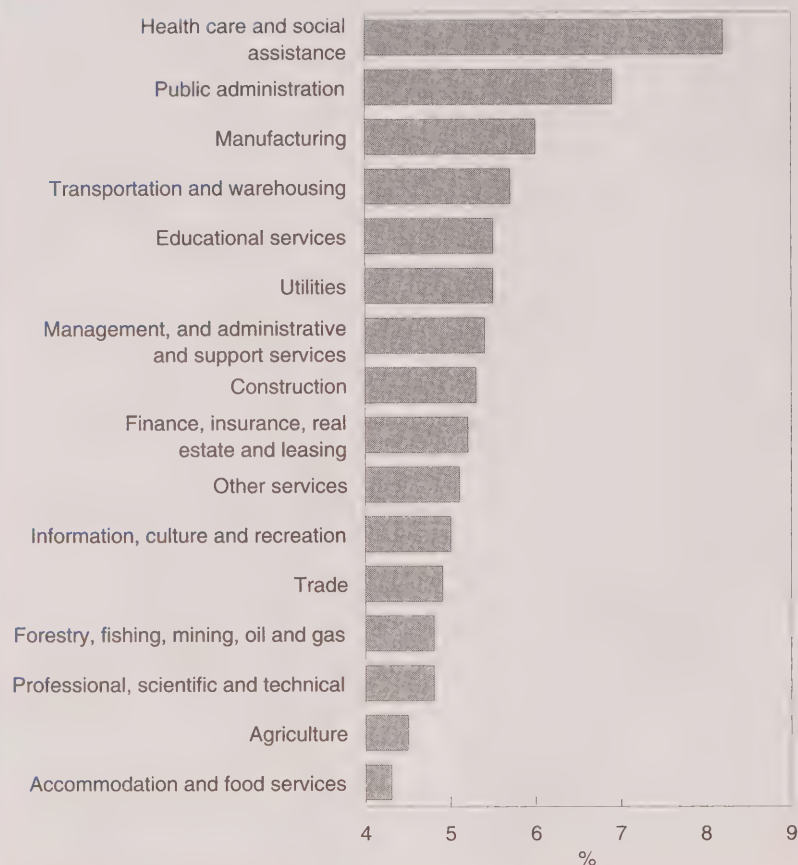
Source: Labour Force Survey

* Absent workers divided by total.

** Hours absent divided by hours usually worked.

† Inactivity rate multiplied by working days in year (250).

Chart : In 1998, health care and social assistance had the highest incidence of time lost for personal reasons.



Source: Labour Force Survey

major industries, with many clustered around 1.1 days. Higher-than-average missed days were recorded in health care and social assistance (1.6); as well as in management, and administrative and support services; educational services; and public administration (1.4 days each). Lower-than-average time was lost by those in accommodation and food services (0.9 days); information, culture and recreation; and utilities (1.0 days each).

Among selected industries at the 3-digit level, full-time employees in durable and non-durable manufacturing both lost around 8.5 days in 1998 (Table 2). Workers in retail trade missed slightly more time than those in wholesale trade (6.5 days versus 6.2). Similarly, those in finance and insurance (6.6 days) lost more work time to personal reasons than their counterparts in real estate, rental and leasing (5.4). In public administration, full-time employees in the federal and

provincial governments lost just slightly over 10 days each in 1998, significantly higher than the 8.2 days missed by those in local and other government.

Summary

Workdays missed by full-time employees for personal reasons rose from 7.4 in 1997 to 7.8 in 1998. All of the increase was due to a rise in time lost to illness or disability; workdays missed for personal or family responsibilities remained unchanged at 1.2 days. Although men accounted for all of the increase over the year, women continued to report absences more often than men during a given work week, and to miss more work time during the year, at ratios of approximately 3 to 2. Among the major industries, those losing considerably more time than others to personal reasons per full-time employee were health care and social assistance; public administration; and transportation and warehousing. Those with relatively few lost workdays were professional, scientific and technical industries; accommodation and food services; and agriculture.

Perspectives

Notes

1 Previous studies in this journal (Akyeampong, 1992, 1995, 1996 and 1998) and elsewhere (Akyeampong, 1988, and Akyeampong and Usalcas, 1998) have examined absence rate differences among workers based on the former Standard Industrial Classification 1980.

2 Although the LFS has produced historical NAICS data back to 1987, this article considers 1998 for two reasons. First, the redesign of the LFS in

Reasons for work absences in the LFS

The pre-1997 version of the LFS grouped the reasons for being away from work all or part of the week as follows:

- illness or disability
- personal or family responsibilities
- weather (part-week absence)
- labour dispute
- vacation
- holiday (part-week absence)
- working short time (part-week absence)
- laid off during week
- new job started during week
- seasonal business (full-week absence)
- other

Studies using pre-1997 data referred to the first two reasons as absences from work for personal reasons.

Reasons for time lost to illness or disability included medical or dental appointments and other temporary health-related absences. Absence for personal or family responsibilities included taking care of children, attending funerals, appearing in court, serving on a jury, and taking care of a sick family member. Longer absences, such as maternity leave, were also included.

The redesigned LFS, whose 1998 estimates are used in this study, sets out the following reasons for being away from work:

- own illness or disability
- caring for own children
- caring for elder relative (60 years or older)
- maternity leave (women only)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (because of material shortages, plant maintenance or repair, for instance)
- other

Illness or disability remain unchanged, and personal or family responsibilities now consist of caring for own children, caring for elder relative, and other personal or family responsibilities.

1997 allowed the removal of maternity leave – clearly not an “absenteeism” factor – from work absence rates (see *Reasons for work absences in the LFS*). In other words, there was a break in the time series starting in 1997, making comparisons with data from earlier years less meaningful. Second, detailed time series covering the period 1987 to 1998 (with pre- and post-1997 LFS redesign information) by industry (NAICS) and occupation (the new SOC 1991) – as well as other socio-demographic variables such as sex, age, education, province, workplace size, public and private sectors – are available in a companion publication (Akyeampong, 1999).

3 Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada’s work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employer). In 1998, the number of employed persons on such long-term illness or disability leave averaged only 16,000 in a typical week. Their exclusion would have reduced the weekly work

absence incidence for illness or disability from 4.3% to 4.1%, the inactivity rate from 2.6% to 2.5%, and days lost per worker from 6.6 to 6.2.

4 The following analysis looks mainly at differences in average time lost per worker. Differences in incidences and inactivity rates are shown, however, in the chart and in Table 2.

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Self-employment in Canada and the United States

Marilyn E. Manser and Garnett Picot

Self-employment has accounted for the majority of net employment growth in Canada in the 1990s, but for almost none in the United States (Manser and Picot, 1997). This marks a change from the 1980s, when it played a similar role in both countries.

Not surprisingly, considerable attention has been paid in recent years to self-employment in Canada, especially to workers' reasons for choosing this option. Have they been "pushed" by lack of full-time paid jobs or "pulled" by the positive benefits of self-employment?¹ Survey data in both countries shed some light on the extent to which many workers may prefer self-employment. Statistics Canada's 1995 Survey of Work Arrangements asked workers why they were self-employed, and most provided positive reasons, as did respondents to the U.S. Current Population Survey.

Employment patterns of different countries may vary for a number of reasons. First, labour supply conditions depend in part on demographic trends (for example, the age and income of a population). Second, institutional arrangements and taxation legislation can influence labour market outcomes. For example, differences in personal or payroll taxes may encourage self-employment (or discourage paid employment) in one country, but not in another. The level of "contracting-out" by firms may also be influenced by taxation or labour laws, thus changing self-employment patterns. Finally, differences in fiscal and monetary policy may influence labour demand and employment. Hence, even if all advanced indus-

trialized countries faced similar shifts in labour demand due to globalization and technological change, employment patterns could vary.

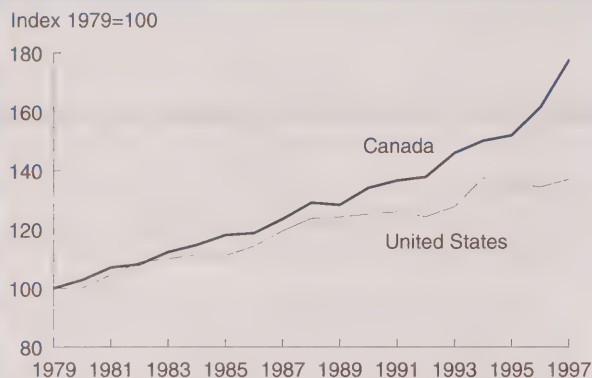
Few studies have compared self-employment in the United States and Canada. Of those, one found that among full-timers in non-agricultural work, the self-employed were older, and more likely to be male and well-educated and to work long hours (Reardon, 1997). In Canada, they were considerably more likely to be in the accommodation and food services industry and less likely to be in finance, insurance and real estate or in miscellaneous services. The study concluded that "[t]he difference in self-employment rates for men appear[ed] to be driven in part by worker characteristics and in part by the selection mechanism at work," and that Canada's far higher immigration rate was an important demographic factor. Differences in personal tax rates in Canada and the United States have also played a role in the divergence of men's self-employment trends during the 1990s (Schuetze, 1998).

This article looks at the characteristics of the self-employed and at the growth of self-employment in Canada and the United States. Although the countries use different official definitions of self-employment, certain comparable information is available (see *Data sources and definitions*).

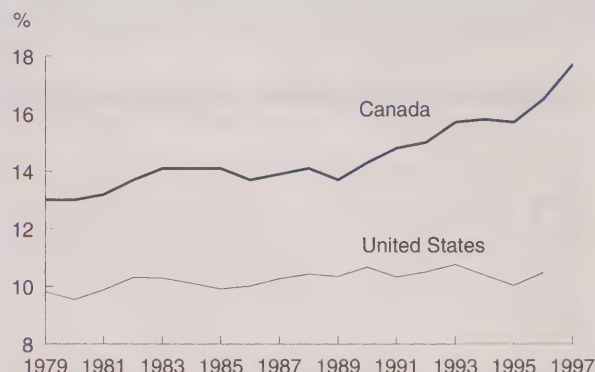
An overview of self-employment

The growth of total self-employment was substantial in both Canada and the United States from 1979 to 1997, although much higher in Canada (77% versus 37%, unadjusted for CPS redesign; 25% adjusted) (Chart A). The increase in Canada's self-employment rate (the share of self-employment in total employment) between 1989 and 1997 was striking – from 14% to 18% – after having remained stable during the 1980s. The American rate changed little, registering around 10% over the entire period (Chart B).

Adapted from an article in Canadian Economic Observer (Statistics Canada, Catalogue no. 11-010-XPB) 12, no. 3 (March 1999). Marilyn Manser is with the U.S. Bureau of Labor Statistics, Washington, D.C. She can be reached at (202) 606-7398. Garnett Picot is with the Business and Labour Market Analysis Division. He can be reached at (613) 951-8214 or picogar@statcan.ca.

Chart A: Self-employment growth accelerated in Canada in the 1990s.

Sources: Labour Force Survey; March U.S. Current Population Survey (CPS) 1979-88; monthly CPS 1989-97

Chart B: The proportion of self-employment has remained fairly constant in the United States.

Sources: Labour Force Survey; March U.S. Current Population Survey

Data sources and definitions

Analysts of U.S. growth often combine the 1980 recession and the more severe 1982 recession. While Canada did experience a mini-recession in 1980, employment peaked in 1981, the year often used as a cyclical peak for annual data. This study treats 1979 to 1989 as one business cycle of recession and expansion for both countries, and 1989 to 1997 as another.

Employment growth was stronger in the United States between 1989 and 1997, up 10% compared with 7% in Canada. But the dramatic difference was in the contribution of self-employment. The extent of this contribution depends on the definition used. In Canada, incorporated working owners (with or without employees) as well as the unincorporated are considered **self-employed**. In the United States, only the unincorporated are considered self-employed; the incorporated self-employed are treated as paid employees. Both definitions are useful.

It is possible to construct both total self-employment (both incorporated and unincorporated) and unincorporated self-employment from the Canadian Labour Force Survey (LFS) for the entire period. For the United States, data are from two sources: the regular monthly Current Population Survey (CPS) and the March supplement to the CPS. Only since 1989 has an official series on incorporated self-employment been produced using the monthly CPS data. In order to examine total self-employment (incorporated plus unincorporated) for the United States back to

1979, this study uses information from the CPS March income supplement (1997 data were not yet available at the time of writing).

While Canadian data and the monthly CPS data refer to the class of worker status in the primary job held during the interview week, the March supplement refers to that of the longest job held over the preceding calendar year. In theory, the number of self-employed from the March data could be either higher or lower than the monthly average data for the corresponding year; in practice, they provide similar pictures.

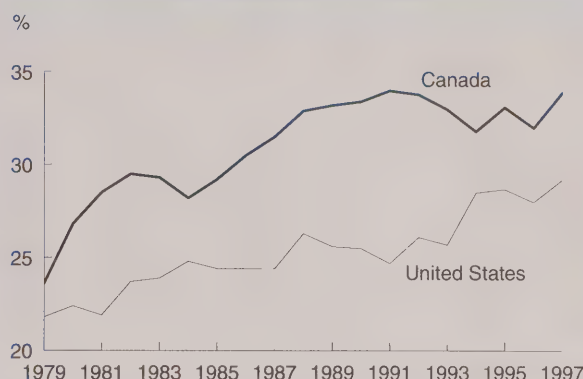
The monthly CPS estimate of self-employment jobs depends on whether or not an adjustment is made to account for the effects of a January 1994 major revision.² Using the unadjusted data increases the estimated growth of self-employment in the 1990s (relative to the adjusted data), since prior to the revision the CPS was undercounting employment, particularly self-employment. Hence, use of the unadjusted data decreases the differences between the United States and Canada. Data on the estimated distribution of jobs by various characteristics probably remain similar. (Data from the March supplement are probably affected to a similar extent but no information is available to construct adjustment factors for them.)

Note: Canadian data exclude 15 year-olds to conform to the American survey.

In Canada especially, the self-employed have been incorporating to a greater extent than before. Their proportion rose from 24% to 33% between 1979 and 1989, and remained stable over the 1990s (Chart C). By contrast, in the United States it grew from 22% to 25% between 1979 and 1989 (March CPS) and from 26% to 29% between 1989 and 1997 (monthly averages unadjusted; from 27% to 29% adjusted).

Between 1989 and 1997, self-employment accounted for about 80% of net employment gain in Canada, but only about 1% in the United States (adjusted monthly data versus 11% unadjusted) (Table 1).³ Unincorporated self-employment by itself (the U.S. definition) contributed about half of net new jobs in Canada over the latest cycle, but virtually none

Chart C: Incorporation among the self-employed increased more in the United States in the 1990s.



Sources: Labour Force Survey; March U.S. Current Population Survey (CPS) 1979-88; monthly CPS 1989-97

Table 1: Contribution of self-employment to total job growth

	Growth		% of total
	Total employment	Self-employment	Growth accounted for by self-employment
	'000		%
Canadian definition			
Canada			
1979-89	2,315	392	16.9
1989-97	904	682	75.4
United States			
1979-89 *	19,638	2,624	13.4
1989-96 *	9,597	1,180	12.3
1989-97 **	12,216	1,402	11.5
1989-97 †	10,662	79	0.7
U.S. definition			
Canada			
1979-89	2,315	199	8.6
1989-97	904	439	48.6
United States			
1979-89 *	19,638	1,585	8.1
1979-89 **	18,518	1,624	8.8
1989-97 **	12,216	505	4.1
1989-97 †	10,662	-246	-2.3

Sources: Labour Force Survey; * March U.S. Current Population Survey (CPS); ** monthly averages, CPS, unadjusted for redesign; † monthly averages, CPS, adjusted for redesign

in the United States (-2% adjusted; 4% unadjusted). The dramatic growth in Canada was unique to the 1990s.

Another striking difference between the decades in Canada is the role played by the self-employed with and without employees. About 60% of net new self-employment jobs created during the 1980s involved entrepreneurs who themselves engaged other employees. The rest were created by own-account workers (that is, entrepreneurs with no employees). During the 1989-97 period, however, fully 90% fit the latter description. This difference would have affected the growth in paid employment. So, the 1990s in Canada produced not only many more self-employed jobs relative to the United States, but also jobs that were different in many ways from those of the 1980s.⁴

Self-employment found everywhere

In the late 1990s, Canadians' relatively greater tendency toward self-employment was widespread. It was observed in all industries and occupations (except management, which was higher in the United States) regardless of workers' education or age.

The industrial concentration of self-employed jobs was similar in the two countries. Self-employment was high in agriculture and construction, and virtually absent from mining and manufacturing. Finance, insurance and real estate, and retail and wholesale trade fell in the middle (Tables 2 and 3).

Table 2: Self-employment rates* for Canada

	1979			1989			1997		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
Age	13.0	15.2	9.5	13.7	16.9	9.6	17.7	21.1	13.7
16 to 19	7.3	6.0	8.8	5.0	4.3	5.8	8.8	7.8	9.9
20 to 24	4.8	5.9	3.5	4.1	4.9	3.2	5.5	6.2	4.7
25 to 34	10.8	12.4	8.1	10.4	12.5	7.6	12.7	14.8	10.2
35 to 44	15.7	18.2	11.5	15.8	19.7	10.9	18.8	22.0	15.1
45 to 54	18.1	20.6	13.5	19.4	23.3	14.0	21.9	26.5	16.3
55 to 64	19.5	21.9	14.6	23.3	27.1	16.4	29.9	34.1	23.0
65 and over	38.8	43.0	26.6	45.4	54.3	27.6	60.2	65.0	49.4
Industry									
Agriculture	74.6	75.4	72.2	68.8	73.5	58.8	71.7	75.3	64.2
Mining	2.6	2.7	1.5	4.0	4.0	3.5	7.8	7.5	9.2
Manufacturing	2.5	2.9	1.5	4.1	4.6	3.0	5.2	5.3	4.8
Construction	25.7	26.7	15.1	29.2	30.7	16.9	37.3	37.9	32.1
Transportation and public utilities	6.2	7.1	2.7	7.6	9.0	3.5	12.4	14.6	6.3
Wholesale trade	11.5	13.8	4.8	14.9	17.5	8.1	18.6	20.7	13.5
Retail trade	17.5	22.1	12.7	16.0	20.8	11.3	18.7	23.4	13.9
Finance, insurance and real estate	6.1	11.9	2.2	8.9	17.6	3.3	15.8	27.3	8.4
Services	13.0	16.7	10.5	14.3	19.7	11.0	19.4	25.7	15.5
Occupation									
Managerial	6.1	7.1	3.2	14.1	18.4	7.1	13.6	17.7	8.4
Professional and technical	8.5	12.5	4.3	10.4	15.1	6.5	15.9	22.5	10.6
Clerical	2.3	1.3	2.5	2.6	2.6	2.6	4.5	3.6	4.8
Sales	24.0	27.9	18.0	24.5	30.5	17.5	30.6	37.0	23.4
Service	15.4	10.8	19.4	14.7	10.4	18.0	19.6	14.2	23.6
Primary **	58.8	56.1	71.2	56.2	54.5	63.1	59.9	57.7	67.7
Processing, machining and fabricating	5.4	6.0	2.9	6.9	7.1	6.2	9.6	9.5	10.0
Operators and labourers	13.4	13.9	6.6	15.4	16.1	8.4	21.2	21.9	14.5
Education									
Less than Grade 9	20.6	22.2	16.8	21.5	24.3	15.7	25.6	29.1	19.4
Some or completed high school	11.9	13.6	9.4	13.3	15.9	9.9	17.2	19.7	14.1
Some postsecondary or diploma/certificate	10.4	13.1	7.0	11.4	14.6	7.9	16.5	19.6	12.9
University degree	12.1	14.5	7.1	15.0	18.9	9.3	19.7	24.6	13.7
Full-/part-time status									
Full-time workers	12.4	15.0	7.3	13.4	16.7	8.2	17.2	20.7	11.8
Part-time workers†	17.0	18.6	16.4	15.2	19.3	13.5	20.1	24.4	18.3

Source: Labour Force Survey

* The ratio of all self-employed (incorporated or not) to total employment, both of which are available on request.

** Comprises farming; fishing and trapping; forestry; and mining.

† Persons who usually work less than 30 hours per week.

Table 3: Self-employment rates* for the United States

	1979			1989			1996		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
Age	9.8	13.2	5.5	10.3	13.3	6.9	10.5	13.0	7.6
16 to 19	1.2	1.8	0.6	1.2	1.7	0.7	1.3	1.9	0.8
20 to 24	3.3	4.6	1.8	2.9	3.8	1.8	3.1	3.8	2.3
25 to 34	8.2	10.7	5.0	7.7	9.5	5.7	7.2	8.2	6.0
35 to 44	13.1	17.3	7.8	12.4	15.9	8.4	11.6	14.5	8.4
45 to 54	14.1	18.6	8.0	15.0	19.1	10.2	14.4	17.9	10.5
55 to 64	15.5	20.1	8.7	17.8	22.7	11.6	18.0	22.4	12.8
65 and over	25.1	31.4	15.0	25.9	34.0	14.7	29.1	37.0	18.2
Industry									
Agriculture	44.2	50.9	21.5	42.0	45.7	29.3	42.5	42.2	43.8
Mining	3.7	4.0	1.6	6.8	8.1	0.3	4.4	5.3	0.3
Manufacturing	2.5	3.1	1.1	3.0	3.4	2.3	3.7	3.7	3.7
Construction	20.9	21.9	8.8	21.0	21.6	15.1	22.7	22.9	21.3
Transportation and public utilities	5.1	6.1	2.3	5.1	6.2	2.4	6.9	7.7	4.8
Wholesale trade	12.0	15.0	4.6	12.6	14.8	7.4	13.0	14.4	9.9
Retail trade	11.4	15.1	8.2	9.9	12.6	7.7	9.0	10.6	7.5
Finance, insurance and real estate	9.8	18.1	4.2	10.4	17.6	5.2	11.3	18.0	6.4
Services	10.5	17.3	6.4	11.8	17.6	8.3	11.2	16.4	8.2
Occupation									
Managerial	2.6	29.7	19.4	17.3	22.5	9.9	17.8	22.9	11.7
Professional and technical	9.4	13.3	4.8	14.0	20.8	7.6	13.2	18.7	8.9
Clerical	1.7	1.9	1.7	2.7	1.7	2.9	3.3	1.9	3.7
Sales	15.5	19.5	11.3	16.7	23.2	10.8	15.9	21.7	10.7
Service	5.9	3.8	7.1	7.5	3.7	10.0	6.8	3.6	8.9
Primary **	49.0	56.4	22.1	39.1	40.6	32.0	38.7	37.2	45.3
Processing, machining and fabricating	11.0	11.2	7.7	13.1	13.5	8.7	14.0	14.3	10.6
Operators and labourers	3.8	4.4	2.2	3.4	3.7	2.5	3.7	4.1	2.5
Education									
Less than Grade 9	9.2	11.9	5.0	8.9	10.8	6.1	8.4	10.1	5.7
Some or completed high school	9.2	12.8	5.6	9.8	12.5	6.9	9.9	12.2	7.4
Some postsecondary or diploma/certificate	8.4	11.0	5.1	9.4	12.5	6.1	9.6	11.8	7.4
University degree	13.6	18.0	5.6	13.4	17.2	8.3	13.4	17.1	9.0
Full-/part-time status									
Full-time workers	9.8	13.1	4.5	10.1	13.0	5.9	9.8	12.5	6.0
Part-time workers†	9.9	14.3	7.9	11.3	15.6	9.2	13.2	16.4	11.6

Source: March U.S. Current Population Survey

* The ratio of all self-employed (incorporated or not) to total employment, both of which are available on request.

** Comprises farming; fishing and trapping; forestry; and mining.

† Persons who usually work less than 35 hours per week.

Because of differences in the occupational categories for the two countries, comparisons are difficult, although self-employment appeared to be more concentrated in the managerial category in the United States. Next to primary occupations, management had the highest rate in that country, compared with its next to last position in Canada. Otherwise, the occupational concentration was similar in both countries.

Men were more likely to be self-employed than women. The proportions of male and female workers self-employed in the late 1990s were 13% and 8% in the United States, versus 21% and 14% in Canada.⁵ Men's rate was higher in most industries and occupations, and also in the majority of age and education groups. The main exception was service occupations, in which women were considerably more likely than men to be self-employed. The gap between men and women has narrowed recently, at least in Canada.

With the exception of the very young (age 16 to 19) in Canada, the tendency to be self-employed increased significantly with age in both countries. The self-employment rate was more than twice as great among 55-to-64 year-olds as among 25-to-34 year-olds. However, the self-employed were concentrated among 35-to-44 year-olds, the largest group of workers.

Canada outpaces United States

The most striking difference between Canada and the United States during the 1990s has been the rate of self-employment job creation. Because the growth was small or nil in the latter country, depending on how it is measured, this article focuses on sizeable shifts in the distribution of self-employment. Prior to the CPS redesign, the U.S. data understated employment of women; thus, shifts for men and women are considered separately. Effects of the redesign on other characteristics are expected to be smaller.

Self-employment created a greater proportion of new jobs in Canada than in the United States during the 1990s, but not during the 1980s.

The percentage of self-employment jobs that were full-time declined over the 1990s in both countries, for both men and women. (Part-time jobs, though, were undercounted in the U.S. monthly CPS prior to the redesign.) Over the 1980s, the United States expe-

rienced a small decline in full-time self-employment, whereas Canada saw no change.

In Canada, 42% of self-employment jobs were in services in 1997, up from 34% in 1989. Over the period, about 40% of all net new self-employment jobs were in the generally higher-paying service industries – including business services (28%), such as computer services and management consulting, and education and health (12%). The remaining new service sector jobs (20% of all new self-employment jobs) were largely in the lower-paying personal services, and accommodation and food services. In contrast, the United States saw little change in service jobs for the self-employed (38% of all self-employment in 1996). Moreover, the distribution of such jobs changed in only minor ways. The percentage in retail trade (which includes eating and drinking places in the United States), for instance, fell slightly for both men and women, but was offset by small increases elsewhere. In contrast to the 1990s, the share of self-employment in services increased in both countries during the 1980s – from 31% to 37% in the United States and from 28% to 34% in Canada.

The non-farm goods sector played a relatively modest role in the United States in the 1990s. The share of self-employment jobs in this sector increased marginally over the decade, compared with a 3-point increase in Canada. During the 1980s, also, goods production played a fairly strong role in Canada's self-employment figures.

Even accounting for different classification systems, recent trends in the two countries' occupational characteristics are notably different. During the 1990s in the United States,⁶ the proportion of self-employed workers in management rose, while that of such workers in sales fell slightly. In Canada, the percentage of self-employed workers in professional/technical occupations rose from 13% to 17%. The percentage of those who were managers declined from 13% to 11%. Although their share of jobs was little changed, service occupations accounted for 17% of the new self-employment jobs in Canada.

The share of self-employment (and indeed all) jobs held by more highly educated workers rose during the 1990s in both countries. This is largely because the number of people with lower levels of education was declining, while that of the more highly educated was expanding rapidly. In Canada, the self-employment rate, perhaps a better indicator of differences among

groups, rose across all educational levels. In contrast, it decreased slightly for high school leavers and was essentially unchanged for other groups in the United States. During the 1980s, the self-employment rate rose for all educational groups in Canada, but did so only for those with a high school diploma or some postsecondary schooling in the United States.

In both countries, all age groups reflected the overall trend of self-employment during the 1990s. Self-employment rose in Canada (especially among those over age 55), but changed relatively little in the United States between 1989 and 1996 for most age groups. During the 1980s, only the middle and older age groups increased their self-employment rate in both countries.

In Canada, earnings of own-account self-employed workers remained about 70% of paid workers' throughout the 1990s. Earnings of employers fell relative to those of paid workers.⁷

Discussion

Although the economies of Canada and the United States are closely linked, during the 1990s their labour markets have diverged in a number of ways. The unemployment gap has increased (with lower unemployment in the United States), and income inequality and poverty have become greater issues in the United States than in Canada. In the former, most new jobs have been full-time paid jobs, whereas in Canada most employment growth has been in self-employment and in part-time paid jobs.

Even allowing for differences in the official definition of self-employment, and for changes to

the U.S. Current Population Survey in 1994, self-employment rates have been higher in Canada for some time, a difference that has grown during the 1990s. Self-employment is also more likely to have been full-time in Canada, including new jobs, many in the relatively high-paying business, health and education services. And, while self-employment growth is more likely to have been in management/administration in the United States, it has registered among professional/technical or sales and service jobs in Canada.

Why has job creation been concentrated in self-employment in Canada, and in paid jobs in the United States? Differences in economic conditions could be one possible explanation. While cyclical variation exists in unemployment and in the paid employment-to-population ratio, relatively little variation characterizes the self-employment rate (Lin, Picot and Yates, 1999). Hence, only a weak (and negative) association exists between changes in economic conditions and the self-employment rate in Canada. Analysis based on taxation data provides similar results, as does that of entry to and exit from self-employment. So, while both the "push" and "pull" theories are at work, results suggest that during recessions the "push" does not increase significantly. By extension, the slower economic growth in Canada during the 1990s might also be an unlikely explanation of the much more rapid growth in self-employment. It may be, however, that prolonged periods of slow growth (rather than recession) do encourage greater self-employment.

Several other factors may affect the two countries' self-employment

levels. These include technological change resulting in reduced operating costs and increased production opportunities for small business, especially home-based business; increased contracting-out by employers; U.S. workers' preference for paid work rather than self-employment jobs (in order to take advantage of health benefits); differences in immigration rates and incentives for immigrants to enter self-employment; differences in interest rates affecting the financing of small business; changes in personal income and payroll taxes; and increasing entrepreneurial spirit. Without further analysis it is difficult to see why at least the first two of these factors would play a more prominent role in Canada than in the United States, given the similarities in the economies and demographics.

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Notes

1 For a discussion of the determinants and consequences of self-employment, see Blanchflower and Oswald (1998).

2 A data appendix, which is available upon request, provides detailed information on the variable definitions, data sources, and adjustment methodologies. See Polivka and Miller (1998) for information on the methodology used to adjust the monthly CPS estimates for the revision.

3 While Canadian growth in self-employment continued to be strong in 1998, that of paid employment was even greater, leaving self-employment's share of the total between 1989 and 1998 at 58%.

4 For reasons of data availability, 1996 data are used for the United States, and 1997 data, for Canada. Differences are

significant at the 90% level unless otherwise indicated. Approximate standard errors for the U.S. data in Table 3 (calculated using generalized variance function techniques) are available upon request. Estimated standard errors for Canadian data in Table 2 are also available.

5 One study examined trends in total self-employment using CPS March supplement data for 1974 to 1990 (Devine, 1994). It found a greater increase for women than men in the non-agricultural sector. (Over the 1979-89 period, the proportion of self-employed rose somewhat more in the non-agricultural sector than it did for all industries – from 9.8% to 10.3%, compared with 8.6% to 9.4%.) The study also compared the characteristics of self-employed women with those of women in the wage and salary sector, as well as with those of self-employed men.

6 Changes in the CPS classifications prevent an assessment of occupational shifts during the 1980s.

7 Data corresponding to Tables 2 and 3 for just unincorporated self-employment are available upon request. U.S. data are based on CPS monthly averages.

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Unionization – an update

Ernest B. Akyeampong

Since 1997, the Labour Force Survey (LFS) has been the major source of data on unionization. The first detailed socio-demographic and economic profile of union members from the LFS was released in *Perspectives* on the eve of Labour Day 1997 and updated in 1998 (Akyeampong, 1997 and 1998).

This year's update extends the profile to the provincial level. It also provides unionization rates according to the new North American Industry Classification System (NAICS) and the 1991 Standard Occupational Classification (SOC 1991). (For details on the objectives of NAICS and SOC 1991, including comparisons with the SIC 1980 and SOC 1980, see Statistics Canada, 1999.) Data on earnings, wage settlements, inflation, and strikes and lockouts are also provided.

Some highlights follow:

Table 1: Union rates in 1998 and 1999

At 11.9 million, average paid employment (employees) during the first half of 1999 was 292,000 higher than that a year earlier. Union membership, however, was virtually unchanged at 3.6 million. This resulted in a fall in the union rate (density) from 30.7% to 30.1%.

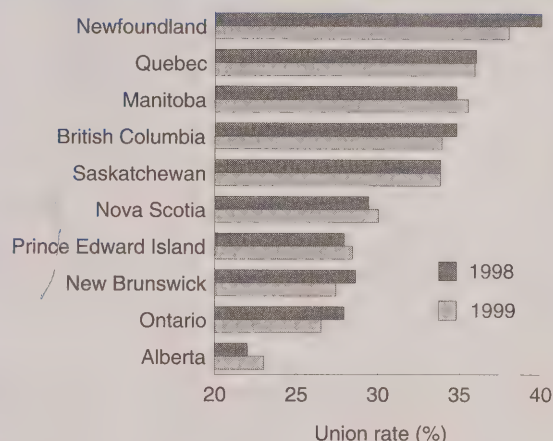
This decline affected both men and women: men's rate fell from 31.6% to 30.9%, and women's, from 29.8% to 29.3%.

Almost all of the decline occurred in the private sector, where it fell from 19.1% to 18.2%. Public sector density remained virtually unchanged at around 71%.

Quebec, Ontario, British Columbia, Newfoundland and New Brunswick all recorded declines in union

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Chart A: Newfoundland remains the most unionized province; Alberta, the least.



Source: Labour Force Survey, January-to-June averages

density; Alberta, Manitoba, Prince Edward Island and Nova Scotia saw rises. Density remained unchanged in Saskatchewan (Chart A).

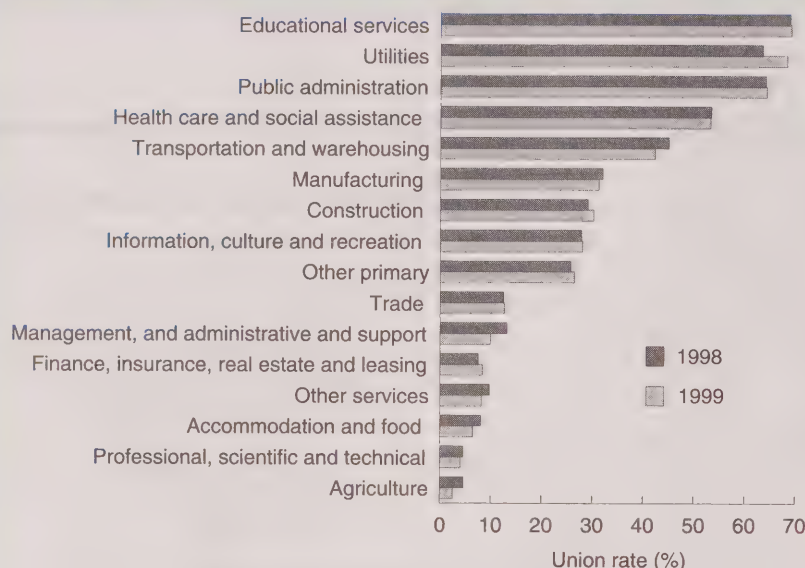
The rate among full-time employees fell from 32.7% to 32.0%, but remained almost unchanged for part-time workers, at around 21.8%.

Workers in both permanent and non-permanent jobs recorded declines in density, as did workers in various firm sizes.

Union rates fell in half of the 16 major industry groups, rising in other primary industries; utilities; construction; trade; finance, insurance, real estate and leasing; educational services; information, culture and recreation; and public administration (Chart B).

Among the 10 major occupational groups, union density rose in 3 (social and public service; culture and recreation; and sales and service). The rest experienced declines (Chart C).

Chart B: The highest unionization rates in 1998 were in public sector-dominated industries.



Source: Labour Force Survey, January-to-June averages

The number of employees who were not union members but were covered by collective agreements remained stable, at around 295,000.

Tables 2A and 2B: 1998 annual averages

Approximately 3.6 million (30.6%) employees belonged to a union in 1998. An additional 297,000 (2.5%) were covered by a collective agreement.

Employees in the public sector, that is, those working for government, crown corporations, or government-funded schools or hospitals, were more than three times as likely as their private sector counterparts to belong to a union (71.3% versus 19.1%).

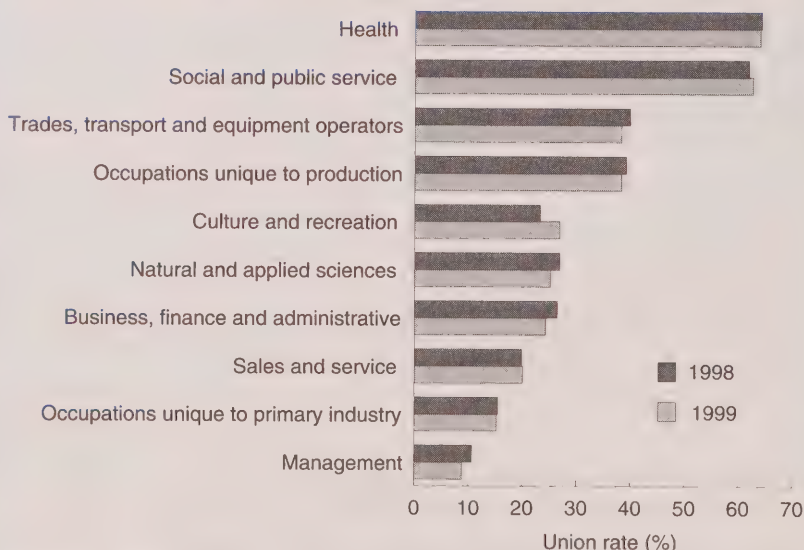
Almost one in three full-time employees belonged to a union, compared with about one in five

part-time workers. Also, almost one in three employees in a permanent position was a union member, compared with roughly one in four in a non-permanent job.

High union rates were found among employees aged 45 to 54 (43.0%), as well as those with university degrees (35.4%), workers in Newfoundland (38.6%), those in educational services (68.9%), utilities (65.0%) and public administration (64.3%), and workers in health care positions (64.4%).

Low union rates were recorded by youths (15 to 24 years) (11.1%), workers in Alberta (22.3%), employees in agriculture (3.8%) and professional, scientific and technical industries (4.5%), and persons in management positions (10.3%).

Chart C: Unionization in community service occupations far outpaced that of others.



Source: Labour Force Survey, January-to-June averages

Differences between the sexes

Men's union rate (31.6%) in 1998 slightly exceeded that of women (29.4%).

The union rate among male part-time workers (16.1%) was only half that of their full-time counterparts (33.3%). Among female employees, however, the gap was narrower (24.1% versus 31.4%).

Women's unionization rate in the public sector (72.5%) exceeded that of men (69.7%), reflecting their presence in public administration and in teaching and health positions. However, in the private sector, only 14.0% were unionized, compared with 23.3% of men. The lower rate reflected women's predominance in sales and several service occupations.

A higher-than-average union rate was recorded among men with less than Grade 9 education (35.7%), mirroring the rates for male-dominated occupations such as transport and equipment operating, machining, assembling and general labour.

For women, the highest rate was registered by those with a university degree (42.5%), reflecting unionization in occupations such as health care and teaching.

Men in permanent positions had a higher rate (33.0%) than women in similar positions (30.2%); the reverse was true among employees in non-permanent positions (20.8% versus 24.4%).

Table 3: Average earnings and hours

Though not all differences can be attributed to union status (Akyeampong, 1997), Labour Force Survey data for 1998 show the following:

Average hourly earnings of unionized workers were higher than those of non-unionized workers. This held true whether they worked full time (\$19.06 versus \$15.57) or part time (\$16.80 versus \$9.81).

Unionized part-time employees not only worked more hours each week than non-unionized part-timers (19.5 hours versus 16.6), they also earned almost twice as much (noted above). As a result, their average weekly earnings were more than double those of the latter (\$334.24 versus \$165.37).

On average, full-time unionized women earned 90% of their male counterparts' hourly wages. In contrast, unionized women who worked part time earned 8% more than their male counterparts.

Table 4: Wage settlements, inflation and labour disputes

After lagging for four years, contract settlements in 1998 (1.6%) surpassed the inflation rate (1.0%). As of April this year, wage settlements were around 1.7%, and inflation stood at 1.0%.

The gap between public and private sector wage gains seemed to widen once again, after narrowing for a couple of years. Major wage gains in the public sector

during the first four months of 1999 averaged 1.5%, compared with 2.3% in the private sector.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, and the state of the economy. Collective bargaining timetables and union size determine the potential for industrial disputes, as well as the number of person-days lost in the event of a strike. The state of the economy influences the likelihood of an industrial dispute, given that one is technically possible.

With these factors in mind, the data show that labour unrest lost some steam in 1998: 0.08% of working time was lost through strikes and lockouts, compared with around 0.11% to 0.12% in 1996 and 1997. During the first quarter of 1999, the percentage of working time lost through strikes and lockouts (0.09%) increased slightly.

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Table 1: Union membership and coverage by selected characteristics, 1998 and 1999

	1998*			1999*		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage**		Members	Coverage**
	'000	%	%	'000	%	%
Both sexes	11,613	30.7	33.3	11,905	30.1	32.6
Men	6,053	31.6	34.4	6,167	30.9	33.5
Women	5,560	29.8	32.0	5,738	29.3	31.6
Sector†						
Public	2,604	71.1	75.3	2,696	70.9	75.1
Private	9,009	19.1	21.1	9,209	18.2	20.2
Age						
15 to 24	1,835	11.5	13.3	1,964	12.0	13.8
25 to 54	8,869	34.2	36.9	8,992	33.6	36.2
25 to 44	6,479	30.9	33.6	6,499	30.4	33.0
45 to 54	2,390	43.2	45.9	2,493	41.8	44.6
55 and over	908	35.5	37.8	948	34.8	37.1
Education						
Less than Grade 9	441	32.5	34.5	410	28.2	29.6
Some high school	1,541	25.2	27.1	1,575	23.9	25.6
High school graduation	2,390	27.9	29.9	2,491	27.7	29.7
Some postsecondary	1,148	23.3	25.3	1,135	22.5	24.8
Postsecondary certificate or diploma	3,914	34.1	37.0	4,044	33.7	36.4
University degree	2,179	35.3	38.7	2,250	35.0	38.4
Province						
Atlantic	802	31.1	32.8	842	30.7	32.1
Newfoundland	156	40.0	41.5	173	38.0	39.7
Prince Edward Island	47	27.9	29.8	47	28.4	31.3
Nova Scotia	335	29.4	31.2	341	30.0	31.0
New Brunswick	265	28.6	30.3	280	27.4	29.0
Quebec	2,740	36.0	40.5	2,791	35.9	40.3
Ontario	4,644	27.9	29.6	4,762	26.5	28.2
Prairies	1,984	27.0	29.8	2,022	27.7	30.5
Manitoba	446	34.8	36.8	453	35.5	37.5
Saskatchewan	347	33.8	36.4	354	33.8	36.3
Alberta	1,190	22.0	25.3	1,216	23.0	26.2
British Columbia	1,443	34.8	36.4	1,488	33.9	35.4
Work status						
Full-time	9,473	32.7	35.5	9,727	32.0	34.7
Part-time	2,140	21.9	23.6	2,177	21.8	23.2
Industry						
Goods-producing	2,938	31.2	33.8	2,991	31.1	33.7
Agriculture	119	4.6	5.3	115	2.5	2.7
Other primary	243	25.7	28.1	211	26.4	28.2
Utilities	116	63.5	69.3	122	68.3	72.6
Construction	447	29.1	30.8	456	30.2	32.1
Manufacturing	2,013	32.0	34.8	2,087	31.2	34.0
Service-producing	8,675	30.6	33.1	8,914	29.8	32.2
Trade	1,789	12.5	14.2	1,889	12.6	14.2
Transportation and warehousing	572	45.0	47.5	599	42.3	44.8
Finance, insurance, real estate and leasing	703	7.5	9.5	752	8.3	10.3
Professional, scientific and technical	521	4.5	6.4	566	4.0	5.8
Management, and administrative and support	357	13.1	14.6	366	9.9	11.5
Education	922	68.9	73.2	933	69.1	73.8
Health care and social assistance	1,226	53.4	56.2	1,253	53.2	55.9
Information, culture and recreation	517	27.8	30.2	528	28.0	30.2
Accommodation and food	804	8.0	8.6	807	6.4	7.1
Other	473	9.7	11.5	455	8.1	10.1
Public administration	791	64.1	69.4	766	64.3	69.7

Table 1: Union membership and coverage by selected characteristics, 1998 and 1999 (concluded)

	1998*			1999*		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage**		Members	Coverage**
	'000	%	%	'000	%	%
Occupation						
Management	1,064	10.6	13.8	982	8.8	12.1
Business, finance and administrative	2,243	26.4	28.8	2,349	24.2	26.8
Professional	293	16.9	18.9	310	15.6	17.6
Administrative	752	22.2	24.7	741	21.0	24.1
Clerical	1,198	31.3	33.8	1,298	28.1	30.6
Natural and applied sciences	690	26.8	29.9	767	25.1	27.8
Health	628	64.1	67.0	671	63.9	66.6
Professional	74	40.0	48.9	76	37.8	43.4
Nursing	222	78.2	79.8	197	80.1	82.4
Technical	168	62.5	65.4	208	67.4	69.1
Support staff	163	57.4	59.6	189	53.8	56.5
Social and public service	887	61.8	65.1	899	62.5	65.8
Legal, social and religious workers	328	38.0	40.5	349	39.1	41.6
Teachers and professors	558	75.8	79.6	550	77.2	81.1
Secondary and elementary	397	87.0	89.5	400	88.1	91.1
Other	161	48.4	55.5	150	48.2	54.4
Culture and recreation	245	23.2	26.7	256	26.8	29.8
Sales and service	2,974	19.8	21.7	3,043	20.0	21.8
Wholesale	333	6.1	8.7	298	5.4	7.1
Retail	741	12.9	13.7	830	12.9	14.0
Food and beverage	455	9.3	9.7	450	9.2	9.9
Protective services	202	51.9	58.9	191	52.9	61.1
Child care and home support	208	31.6	33.9	221	34.0	36.7
Travel and accommodation	1,037	25.2	27.0	1,054	25.3	27.0
Trades, transport and equipment operators	1,577	39.8	42.3	1,615	38.2	40.6
Contractors and supervisors	85	30.3	33.5	76	28.3	34.2
Construction trades	173	41.1	43.1	189	40.4	41.5
Other trades	634	43.1	45.9	656	41.7	44.1
Transportation equipment operators	429	40.5	42.9	448	35.9	38.4
Helpers and labourers	256	32.4	34.7	245	34.8	36.7
Occupations unique to primary industry	228	15.4	16.9	222	15.2	16.4
Occupations unique to production	1,077	39.1	42.0	1,101	38.2	40.8
Machine operators and assemblers	836	38.4	41.4	876	38.2	41.1
Labourers	241	41.5	44.3	225	37.9	39.7
Workplace size						
Under 20 employees	4,031	12.4	14.0	4,129	12.2	13.8
20 to 99 employees	3,737	31.0	33.6	3,849	30.5	33.3
100 to 500 employees	2,401	45.2	48.6	2,506	44.1	47.3
Over 500 employees	1,444	57.0	60.5	1,420	56.6	59.4
Job tenure						
1 to 12 months	2,706	13.4	15.7	2,763	14.5	16.6
Over 1 year to 5 years	3,424	20.2	22.6	3,651	19.5	21.8
Over 5 years to 9 years	1,758	34.6	36.9	1,618	32.6	35.1
Over 9 years to 14 years	1,442	43.1	45.5	1,572	42.0	44.8
Over 14 years	2,284	56.3	59.6	2,300	55.9	58.9
Job status						
Permanent	10,340	31.6	34.1	10,560	31.0	33.4
Non-permanent	1,273	23.5	26.3	1,345	23.4	26.1

Source: Labour Force Survey

* January-to-June average.

** Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

† Public sector: employees in government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions; private sector: all other wage and salary earners.

Table 2A: Union membership and coverage of employees

No.		Both sexes					Men		
		Total	Union member		Union coverage*		Total	Union member	
			Total	Density	Total	Density		Total	Density
		'000	'000	%	'000	%	'000	'000	%
1	Total	11,801	3,609	30.6	3,906	33.1	7,895	6,169	31.6
	Sector †								
2	Public	2,598	1,853	71.3	1,961	75.5	637	1,111	69.7
3	Private	9,203	1,756	19.1	1,946	21.1	7,257	5,057	23.3
	Age								
4	15 to 24	1,950	216	11.1	253	13.0	1,696	1,002	11.8
5	25 to 54	8,921	3,058	34.3	3,297	37.0	5,624	4,632	35.2
6	25 to 44	6,506	2,019	31.0	2,192	33.7	4,314	3,394	31.6
7	45 to 54	2,415	1,038	43.0	1,105	45.8	1,310	1,238	45.2
8	55 and over	930	336	36.1	356	38.3	574	534	37.6
	Education								
9	Less than Grade 9	445	139	31.3	148	33.3	297	277	35.7
10	Some high school	1,573	402	25.6	431	27.4	1,143	913	29.2
11	High school graduation	2,452	673	27.5	724	29.5	1,728	1,248	31.6
12	Some postsecondary	1,164	267	22.9	290	25.0	873	576	26.7
13	Postsecondary certificate or diploma	3,975	1,351	34.0	1,463	36.8	2,513	2,014	35.2
14	University degree	2,193	777	35.4	851	38.8	1,341	1,142	28.9
	Province								
15	Atlantic	832	251	30.2	266	32.0	566	430	30.8
16	Newfoundland	165	64	38.6	66	40.2	99	86	40.3
17	Prince Edward Island	49	13	27.2	14	29.3	34	23	23.5
18	Nova Scotia	342	99	28.9	105	30.6	237	177	30.0
19	New Brunswick	277	76	27.4	81	29.2	196	143	27.4
20	Quebec	2,792	993	35.6	1,117	40.0	1,675	1,488	37.1
21	Ontario	4,701	1,309	27.8	1,382	29.4	3,319	2,454	30.1
22	Prairies	2,007	543	27.1	603	30.1	1,404	1,045	25.2
23	Manitoba	452	155	34.4	164	36.3	288	233	33.6
24	Saskatchewan	352	119	33.9	129	36.6	223	179	30.9
25	Alberta	1,203	269	22.3	310	25.8	893	632	20.6
26	British Columbia	1,468	513	34.9	538	36.6	931	752	35.0
	Work status								
27	Full-time	9,679	3,147	32.5	3,409	35.2	6,271	5,558	33.3
28	Part-time	2,122	462	21.8	498	23.5	1,624	610	16.1
	Industry								
29	Goods-producing	3,011	949	31.5	1,027	34.1	1,984	2,275	35.3
30	Agriculture	127	5	3.8	6	4.8	121	81	3.2
31	Other primary	244	66	26.9	71	29.3	173	205	30.0
32	Utilities	117	76	65.0	83	70.7	34	90	68.4
33	Construction	496	148	29.9	158	31.8	338	435	33.4
34	Manufacturing	2,027	654	32.3	709	35.0	1,318	1,464	36.3
35	Service-producing	8,790	2,661	30.3	2,879	32.8	5,911	3,893	29.5
36	Trade	1,840	230	12.5	262	14.2	1,578	923	14.4
37	Transportation and warehousing	575	258	44.9	271	47.1	304	425	46.2
38	Finance, insurance, real estate and leasing	715	56	7.9	71	10.0	644	259	6.4
39	Professional, scientific and technical	546	25	4.5	34	6.3	511	269	6.1
40	Management, and administrative and support	359	46	12.8	53	14.6	307	192	17.2
41	Education	899	619	68.9	659	73.2	241	333	66.7
42	Health care and social assistance	1,245	662	53.2	695	55.9	549	213	55.1
43	Information, culture and recreation	533	148	27.8	161	30.2	372	270	28.0
44	Accommodation and food	812	63	7.7	69	8.5	743	323	8.4
45	Other	480	47	9.7	55	11.4	425	252	10.5
46	Public administration	788	507	64.3	550	69.7	238	434	65.6

by selected characteristics, Canada, 1998

Men			Women						
Union coverage*		Not a union member**	Union member			Union coverage*		Not a union member**	No.
Total	Density		Total	Total	Density	Total	Density		
'000	%	'000	'000	'000	%	'000	%	'000	
2,125	34.4	4,044	5,633	1,658	29.4	1,782	31.6	3,851	1
830	74.7	281	1,487	1,078	72.5	1,131	76.1	356	2
1,295	25.6	3,762	4,145	579	14.0	651	15.7	3,495	3
141	14.1	861	947	97	10.3	112	11.8	835	4
1,769	38.2	2,863	4,289	1,426	33.2	1,528	35.6	2,762	5
1,171	34.5	2,224	3,112	947	30.4	1,021	32.8	2,091	6
599	48.4	639	1,177	479	40.6	506	43.0	671	7
214	40.1	320	396	135	34.1	142	35.9	254	8
105	37.9	172	168	40	24.0	43	25.7	125	9
285	31.2	628	661	136	20.6	146	22.1	515	10
423	33.9	825	1,204	279	23.2	300	24.9	904	11
167	29.0	409	588	113	19.2	123	21.0	464	12
770	38.2	1,244	1,962	642	32.7	693	35.3	1,269	13
375	32.9	767	1,051	447	42.5	476	45.3	575	14
141	32.8	289	403	119	29.6	125	31.2	277	15
36	42.1	50	80	29	36.9	30	38.1	49	16
6	25.7	17	25	8	30.6	8	32.7	17	17
56	31.8	121	165	45	27.6	48	29.3	116	18
42	29.4	101	133	36	27.3	39	29.0	95	19
628	42.2	860	1,304	441	33.8	490	37.5	815	20
781	31.8	1,673	2,248	569	25.3	601	26.7	1,647	21
298	28.6	747	962	279	29.0	305	31.7	657	22
84	35.9	150	219	77	35.2	80	36.8	138	23
61	33.9	118	173	64	37.0	68	39.4	105	24
154	24.3	478	571	139	24.3	157	27.4	414	25
277	36.8	475	716	249	34.8	261	36.4	455	26
2,016	36.3	3,542	4,121	1,294	31.4	1,393	33.8	2,728	27
109	17.8	501	1,512	364	24.1	389	25.7	1,123	28
863	37.9	1,413	736	146	19.9	165	22.4	571	29
3	4.2	78	46	2	4.9	3	6.0	43	30
66	32.3	139	39	4	10.8	5	13.1	34	31
67	73.8	24	27	14	53.4	16	60.3	11	32
154	35.4	281	62	3	5.4	4	6.6	57	33
572	39.1	892	563	122	21.8	137	24.3	426	34
1,262	32.4	2,631	4,897	1,511	30.9	1,617	33.0	3,280	35
153	16.5	771	917	97	10.6	110	12.0	807	36
206	48.4	220	149	62	41.4	65	43.7	84	37
22	8.3	237	456	40	8.7	50	10.9	406	38
22	8.3	246	277	8	3.0	12	4.3	265	39
38	19.6	155	167	13	7.7	15	8.9	152	40
240	72.1	93	566	397	70.1	418	73.9	148	41
126	59.1	87	1,032	544	52.8	570	55.2	462	42
84	31.1	186	263	72	27.6	77	29.3	186	43
30	9.4	292	489	36	7.3	39	7.9	450	44
32	12.6	221	228	20	8.8	23	10.2	204	45
311	71.5	124	354	222	62.7	239	67.5	115	46

Table 2A: Union membership and coverage of employees

No.	Occupation	Both sexes						Men		
		Total	Union member		Union coverage*		Not a union member**	Total	Union member	
			Total	Density	Total	Density			Total	Density
		'000	'000	%	'000	%	'000	'000	'000	%
Occupation										
1	Management	1,054	108	10.3	142	13.4	913	629	61	9.7
2	Business, finance and administrative	2,241	577	25.7	632	28.2	1,609	618	180	29.2
3	Professional	294	52	17.5	59	20.0	236	133	26	19.4
4	Administrative	754	159	21.1	179	23.7	575	122	23	19.2
5	Clerical	1,192	367	30.7	394	33.1	798	363	131	36.1
6	Natural and applied sciences	705	184	26.1	205	29.0	501	570	153	26.9
7	Health	641	413	64.4	430	67.2	210	92	55	59.7
8	Professional	76	29	39.0	36	47.0	40	24	7	27.3
9	Nursing	234	185	79.1	189	80.9	45	15	12	77.5
10	Technical	169	107	63.3	111	65.6	58	29	19	65.0
11	Support staff	163	91	56.2	95	58.3	68	24	18	74.7
12	Social and public service	872	540	61.9	569	65.3	303	327	186	57.0
13	Legal, social and religious workers	330	125	38.0	135	40.9	195	123	37	30.0
14	Teachers and professors	543	414	76.4	434	80.0	108	203	149	73.5
15	Secondary and elementary	390	340	87.2	349	89.7	40	120	106	88.9
16	Other	153	75	48.8	85	55.5	68	84	43	51.4
17	Culture and recreation	253	64	25.3	72	28.4	182	112	28	24.8
18	Sales and service	3,031	606	20.0	662	21.9	2,369	1,302	306	23.5
19	Wholesale	345	24	6.9	33	9.5	313	216	14	6.5
20	Retail	769	97	12.7	104	13.6	665	220	27	12.3
21	Food and beverage	451	44	9.7	46	10.2	405	165	19	11.4
22	Protective services	202	109	54.1	123	61.1	79	165	92	55.9
23	Child care and home support	211	64	30.5	69	32.8	142	13	5	39.4
24	Travel and accommodation	1,053	267	25.4	287	27.2	766	524	149	28.4
25	Trades, transport and equipment operators	1,652	648	39.2	690	41.7	963	1,542	618	40.1
26	Contractors and supervisors	87	28	32.1	31	35.5	56	81	26	32.3
27	Construction trades	190	77	40.8	81	42.7	109	185	77	41.5
28	Other trades	647	273	42.2	291	45.0	356	612	263	42.9
29	Transportation equipment operators	448	178	39.6	188	42.0	260	413	167	40.3
30	Helpers and labourers	280	92	32.8	98	35.1	182	251	86	34.3
31	Occupations unique to primary industry	251	37	14.9	42	16.7	209	203	34	16.8
32	Occupations unique to production	1,099	433	39.4	462	42.1	636	774	330	42.6
33	Machine operators and assemblers	840	328	39.1	351	41.8	489	602	254	42.1
34	Labourers	259	105	40.4	111	43.0	147	172	76	44.4
Workplace size										
35	Under 20 employees	4,088	495	12.1	565	13.8	3,523	1,979	271	13.7
36	20 to 99 employees	3,791	1,164	30.7	1,264	33.4	2,526	2,018	590	29.2
37	100 to 500 employees	2,467	1,115	45.2	1,194	48.4	1,273	1,366	627	45.9
38	Over 500 employees	1,455	835	57.3	883	60.7	572	805	464	57.6
Job tenure										
39	1 to 12 months	2,837	380	13.4	447	15.8	2,390	1,467	209	14.3
40	Over 1 year to 5 years	3,464	698	20.2	780	22.5	2,683	1,800	371	20.6
41	Over 5 years to 9 years	1,710	578	33.8	616	36.0	1,094	828	274	33.1
42	Over 9 years to 14 years	1,486	650	43.7	687	46.2	800	721	318	44.1
43	Over 14 years	2,304	1,303	56.6	1,377	59.8	927	1,352	780	57.7
Job status										
44	Permanent	10,406	3,294	31.6	3,551	34.1	6,855	5,486	1,809	33.0
45	Non-permanent	1,395	316	22.6	355	25.4	1,040	683	142	20.8

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

by selected characteristics, Canada, 1998 (concluded)

Men			Women						
Union coverage*		Not a union member**	Union member			Union coverage*		Not a union member**	No.
Total	Density		Total	Total	Density	Total	Density		
'000	%	'000	'000	'000	%	'000	%	'000	
84	13.3	545	426	47	11.1	58	13.6	368	1
195	31.5	424	1,623	397	24.4	437	27.0	1,186	2
28	21.1	105	161	26	16.0	31	19.1	130	3
27	21.9	95	633	135	21.4	152	24.1	480	4
140	38.5	223	829	236	28.4	254	30.7	575	5
170	29.9	400	136	31	22.8	35	25.5	101	6
60	64.7	33	549	358	65.2	371	67.6	178	7
8	35.2	16	52	23	44.4	27	52.5	25	8
12	82.5	3	219	173	79.2	177	80.8	42	9
20	68.9	9	140	88	62.9	91	64.9	49	10
19	77.9	5	138	73	53.0	76	54.9	62	11
200	61.3	126	546	353	64.7	369	67.6	177	12
41	33.4	82	206	88	42.8	94	45.5	113	13
159	78.3	44	340	265	78.1	275	81.1	64	14
109	91.5	10	270	233	86.4	240	88.9	30	15
50	59.4	34	69	32	45.7	35	50.8	34	16
33	29.1	79	142	36	25.7	39	27.8	102	17
338	25.9	964	1,729	300	17.4	325	18.8	1,404	18
20	9.2	196	130	10	7.7	13	9.9	117	19
29	13.2	191	550	70	12.8	75	13.7	474	20
20	11.9	145	286	25	8.7	27	9.3	260	21
104	63.2	61	37	17	46.4	19	51.8	18	22
5	41.5	8	198	59	29.9	64	32.2	134	23
160	30.4	365	529	119	22.4	127	24.0	402	24
657	42.6	885	110	29	26.7	33	29.6	78	25
29	35.7	52	6	2	29.6	2	33.8	4	26
80	43.5	104	5	--	--	--	--	4	27
279	45.7	333	35	10	28.7	12	33.0	23	28
176	42.6	237	35	11	31.5	12	34.8	23	29
92	36.7	159	30	6	20.1	6	21.1	23	30
38	18.7	165	48	3	6.7	4	8.0	44	31
351	45.4	423	325	103	31.6	111	34.2	214	32
270	44.8	332	238	74	31.3	81	34.2	157	33
81	47.4	90	87	28	32.6	30	34.3	57	34
309	15.6	1,669	2,109	223	10.6	255	12.1	1,854	35
648	32.1	1,370	1,772	575	32.4	616	34.8	1,156	36
676	49.5	690	1,101	489	44.4	519	47.1	582	37
491	61.0	314	650	371	57.1	392	60.3	258	38
248	16.9	1,219	1,370	171	12.5	199	14.5	1,171	39
421	23.4	1,379	1,664	327	19.7	360	21.6	1,305	40
295	35.6	534	882	304	34.5	321	36.4	561	41
337	46.7	385	765	332	43.5	350	45.8	415	42
825	61.0	527	951	523	55.0	552	58.0	400	43
1,963	35.8	3,523	4,921	1,484	30.2	1,588	32.3	3,332	44
162	23.7	521	712	174	24.4	193	27.2	519	45

** Workers who are neither union members nor covered by collective agreements.

† Public sector: employees in government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions; private sector: all other wage and salary earners.

Table 2B: Union membership and coverage of employees

No.		Atlantic					Quebec			
		Total	Union member		Union coverage*		Not a union member**	Total	Union member	
			Total	Density	Total	Density			Total	Density
		'000	'000	%	'000	%	'000	'000	'000	%
1	Total	832	251	30.2	266	32.0	566	2,792	993	35.6
Sector †										
2	Public	232	162	69.5	169	72.7	64	646	493	76.4
3	Private	600	90	15.0	97	16.2	503	2,146	500	23.3
Sex										
4	Men	430	132	30.8	141	32.8	289	1,488	553	37.1
5	Women	403	119	29.6	125	31.2	277	1,304	441	33.8
Age										
6	15 to 24	135	9	6.7	11	8.1	124	435	63	14.6
7	25 to 54	642	223	34.8	235	36.6	407	2,145	854	39.8
8	25 to 44	463	144	31.1	152	32.7	311	1,530	559	36.5
9	45 to 54	179	79	44.3	84	46.6	96	615	295	48.0
10	55 and over	55	19	34.9	20	36.5	35	212	76	36.1
Education										
11	Less than Grade 9	36	10	27.0	10	28.3	26	180	59	32.8
12	Some high school	116	26	22.0	27	23.2	89	349	109	31.2
13	High school graduation	161	34	21.1	37	22.8	125	463	158	34.2
14	Some postsecondary	71	13	17.9	14	19.4	57	227	61	26.8
15	Postsecondary certificate or diploma	310	111	35.8	116	37.6	193	1,048	395	37.7
16	University degree	138	59	42.4	62	44.9	76	526	211	40.2
Work status										
17	Full-time	692	230	33.2	243	35.1	449	2,308	861	37.3
18	Part-time	140	22	15.3	23	16.5	117	484	132	27.3
Industry										
19	Goods-producing	190	58	30.5	61	32.0	129	755	269	35.6
20	Agriculture	12	1	4.7	1	4.7	11	25	2	6.6
21	Other primary	30	9	31.6	10	34.0	20	39	12	31.6
22	Utilities	8	5	62.0	5	64.1	3	30	19	65.7
23	Construction	42	11	27.0	12	27.8	30	86	37	43.3
24	Manufacturing	99	32	32.2	34	33.9	65	575	198	34.5
25	Service-producing	643	194	30.1	205	32.0	437	2,037	724	35.6
26	Trade	141	7	5.3	9	6.2	132	420	66	15.8
27	Transportation and warehousing	40	16	39.6	17	42.1	23	124	52	42.0
28	Finance, insurance, real estate and leasing	39	2	4.3	2	5.9	37	155	23	15.0
29	Professional, scientific and technical	26	1	3.9	1	5.1	24	126	5	4.0
30	Management, and administrative and support	22	1	5.9	1	6.8	20	76	16	21.0
31	Education	69	48	69.9	51	73.3	19	218	164	75.1
32	Health care and social assistance	110	62	55.8	64	57.9	46	283	177	62.6
33	Information, culture and recreation	33	9	26.7	10	29.2	23	127	42	33.4
34	Accommodation and food	58	3	5.1	3	5.4	55	184	21	11.4
35	Other	35	2	6.8	2	7.1	32	116	13	11.1
36	Public administration	70	42	60.0	45	63.9	25	209	145	69.5

by selected characteristics, 1998

Quebec			Ontario						
Union coverage*		Not a union member**	Union member			Union coverage*		Not a union member**	No.
Total	Density		Total	Total	Density	Total	Density		
'000	%	'000	'000	'000	%	'000	%	'000	
1,117	40.0	1,675	4,701	1,309	27.8	1,382	29.4	3,319	1
524	81.2	121	922	613	66.5	647	70.2	275	2
593	27.6	1,553	3,779	695	18.4	735	19.4	3,044	3
628	42.2	860	2,454	739	30.1	781	31.8	1,673	4
490	37.5	815	2,248	569	25.3	601	26.7	1,647	5
81	18.6	354	746	72	9.7	81	10.8	665	6
954	44.5	1,191	3,566	1,100	30.9	1,159	32.5	2,407	7
632	41.3	898	2,619	724	27.6	767	29.3	1,852	8
322	52.4	293	946	376	39.8	392	41.4	554	9
82	38.9	129	390	136	34.9	142	36.6	247	10
65	36.2	115	156	54	34.2	55	35.1	102	11
122	35.0	227	646	168	26.1	174	27.0	471	12
174	37.7	288	1,024	273	26.7	287	28.0	737	13
69	30.6	157	476	97	20.4	103	21.7	373	14
443	42.3	604	1,465	438	29.9	467	31.9	998	15
242	46.1	283	934	278	29.8	296	31.7	638	16
972	42.1	1,336	3,867	1,162	30.1	1,226	31.7	2,641	17
145	29.9	339	835	146	17.5	156	18.7	678	18
307	40.6	448	1,281	420	32.8	438	34.2	843	19
2	9.2	23	42	--	--	--	--	40	20
14	36.4	25	34	14	40.7	14	41.9	20	21
21	72.1	8	48	34	69.8	35	73.3	13	22
42	48.1	45	186	60	32.3	62	33.2	124	23
227	39.6	347	971	312	32.1	326	33.5	646	24
810	39.8	1,227	3,420	888	26.0	944	27.6	2,477	25
84	20.0	336	711	84	11.8	89	12.5	623	26
56	45.3	68	212	87	41.1	90	42.7	121	27
33	21.1	122	334	12	3.4	13	3.9	321	28
10	7.6	116	241	11	4.5	13	5.3	228	29
19	24.8	57	166	20	12.2	21	13.0	144	30
174	79.7	44	330	225	68.1	233	70.7	97	31
191	67.4	92	458	194	42.3	203	44.4	254	32
47	37.3	80	208	44	21.0	47	22.6	161	33
24	13.0	161	289	21	7.3	23	7.8	267	34
18	15.6	98	182	18	9.8	19	10.5	163	35
156	74.5	53	291	174	59.8	193	66.3	98	36

Table 2B: Union membership and coverage of employees

No.	Occupation	Atlantic					Quebec		
		Total	Union member		Union coverage*		Total	Union member	
			Total	Density	Total	Density		Total	Density
		'000	'000	%	'000	%	'000	'000	%
	Occupation								
1	Management	67	8	12.2	10	14.7	57	217	10.4
2	Business, finance and administrative	144	40	28.1	44	30.3	100	547	31.3
3	Professional	14	3	18.3	3	20.9	11	74	27.5
4	Administrative	51	14	26.5	15	29.3	36	203	25.1
5	Clerical	78	24	31.0	26	32.8	53	270	36.9
6	Natural and applied sciences	42	14	34.3	16	36.8	27	183	28.9
7	Health	55	38	69.5	40	71.4	16	165	69.4
8	Professional	5	2	40.0	2	45.5	3	24	45.4
9	Nursing	23	19	84.3	20	85.5	3	61	85.7
10	Technical	16	12	75.0	12	77.0	4	40	67.4
11	Support staff	11	5	46.0	5	47.6	6	40	60.9
12	Social and public service	63	40	62.6	41	65.1	22	222	70.2
13	Legal, social and religious workers	23	8	35.2	9	38.1	14	78	50.7
14	Teachers and professors	40	32	78.0	33	80.3	8	144	80.8
15	Secondary and elementary	29	26	88.3	26	90.2	3	99	88.1
16	Other	11	6	51.3	6	54.5	5	44	64.5
17	Culture and recreation	14	4	27.7	4	30.2	10	72	25.3
18	Sales and service	231	35	15.2	38	16.3	193	679	23.5
19	Wholesale	18	1	3.9	1	5.3	17	78	8.8
20	Retail	63	3	4.4	3	5.3	60	172	16.1
21	Food and beverage	33	3	9.6	3	10.0	30	114	11.1
22	Protective services	15	6	38.8	6	43.0	8	48	71.4
23	Child care and home support	20	4	18.4	4	19.4	16	34	35.1
24	Travel and accommodation	82	19	23.2	20	24.3	62	234	28.3
25	Trades, transport and equipment operators	128	47	37.1	49	38.6	78	358	45.8
26	Contractors and supervisors	6	2	29.0	2	32.3	4	15	39.3
27	Construction trades	16	6	35.9	6	36.6	10	35	59.3
28	Other trades	45	19	43.3	20	44.3	25	149	49.1
29	Transportation equipment operators	38	14	36.1	15	38.5	23	110	39.7
30	Helpers and labourers	22	7	29.5	7	30.6	16	49	41.8
31	Occupations unique to primary industry	30	4	14.0	5	15.3	26	47	17.2
32	Occupations unique to production	58	20	34.2	21	35.8	37	302	42.0
33	Machine operators and assemblers	40	13	33.4	14	35.3	26	228	41.1
34	Labourers	18	6	35.8	7	36.8	11	74	45.0
	Workplace size								
35	Under 20 employees	355	46	13.0	51	14.2	305	920	12.5
36	20 to 99 employees	268	93	34.6	98	36.5	170	867	35.4
37	100 to 500 employees	146	72	49.5	76	52.0	70	616	52.4
38	Over 500 employees	64	40	63.6	42	66.3	21	390	63.8
	Job tenure								
39	1 to 12 months	231	30	13.2	35	15.1	196	639	16.5
40	Over 1 year to 5 years	210	39	18.5	42	19.9	169	759	24.6
41	Over 5 years to 9 years	108	35	31.9	36	33.3	72	390	36.8
42	Over 9 years to 14 years	106	46	43.0	48	45.2	58	356	47.4
43	Over 14 years	176	102	57.7	105	59.8	71	647	60.1
	Job status								
44	Permanent	670	219	32.7	230	34.3	440	2,409	36.5
45	Non-permanent	162	32	20.0	36	22.3	126	382	29.5

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

by selected characteristics, 1998 (continued)

Quebec			Ontario						
Union coverage*		Not a union member**	Union member			Union coverage*		Not a union member**	No.
Total	Density		Total	Total	Density	Total	Density		
'000	%	'000	'000	'000	%	'000	%	'000	
39	17.9	178	448	40	9.0	47	10.5	401	1
192	35.1	355	913	183	20.1	197	21.6	715	2
23	30.8	51	125	14	11.4	16	12.7	109	3
59	29.2	144	291	50	17.0	54	18.6	237	4
110	40.8	160	496	119	24.1	127	25.6	369	5
63	34.4	120	286	63	22.2	68	24.0	217	6
123	74.6	42	224	117	52.5	122	54.4	102	7
14	57.7	10	24	6	26.0	8	32.4	16	8
54	89.2	7	78	50	63.9	51	65.2	27	9
29	71.9	11	63	34	53.4	35	55.0	28	10
26	65.3	14	58	27	47.0	28	48.4	30	11
165	74.3	57	333	200	60.0	207	62.0	127	12
44	56.6	34	129	43	33.5	45	34.8	84	13
121	83.9	23	204	157	76.8	162	79.3	42	14
90	90.2	10	150	134	89.6	137	91.3	13	15
31	69.8	13	54	22	41.5	25	46.0	29	16
21	28.9	51	102	22	21.8	24	24.0	77	17
179	26.4	499	1,158	217	18.7	235	20.3	923	18
11	13.9	67	144	5	3.7	7	4.8	137	19
31	18.3	140	298	35	11.6	35	11.9	262	20
14	12.2	100	144	14	9.9	15	10.1	129	21
36	74.9	12	84	42	50.4	51	60.7	33	22
13	39.2	21	78	18	22.8	19	24.6	59	23
74	31.7	160	411	103	25.0	108	26.2	303	24
183	51.1	175	641	246	38.4	255	39.7	386	25
7	44.3	9	36	11	30.2	12	33.3	24	26
23	64.0	13	68	30	44.4	30	44.8	37	27
82	55.3	67	261	107	40.8	110	42.2	151	28
48	43.8	62	159	61	38.5	63	39.9	96	29
23	47.9	25	117	38	32.2	39	33.1	78	30
10	20.6	37	65	9	13.5	9	14.4	56	31
142	47.1	160	533	210	39.4	218	40.8	316	32
106	46.3	123	420	166	39.6	172	41.0	247	33
37	49.6	37	114	44	38.4	46	40.1	68	34
148	16.1	772	1,451	154	10.6	168	11.6	1,283	35
347	40.0	520	1,490	393	26.4	412	27.7	1,078	36
357	57.9	259	1,068	409	38.3	431	40.3	637	37
266	68.2	124	692	352	50.8	371	53.6	321	38
133	20.8	507	1,049	119	11.3	134	12.8	915	39
220	29.1	538	1,408	241	17.1	262	18.6	1,145	40
161	41.3	229	726	224	30.9	233	32.2	492	41
183	51.4	173	638	257	40.4	267	41.8	371	42
420	64.8	228	881	467	53.0	485	55.1	396	43
989	41.0	1,421	4,242	1,238	29.2	1,302	30.7	2,939	44
128	33.5	254	460	70	15.3	80	17.3	380	45

** Workers who are neither union members nor covered by collective agreements.

† Public sector: employees in government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions; private sector: all other wage and salary earners.

Table 2B: Union membership and coverage of employees

No.	Prairies					
	Total	Union member		Union coverage *		Not a union member **
		Total	Density	Total	Density	
	'000	'000	%	'000	%	'000
1 Total	2,007	543	27.1	603	30.1	1,404
Sector †						
2 Public	472	328	69.4	353	74.7	119
3 Private	1,535	215	14.0	251	16.3	1,285
Sex						
4 Men	1,045	264	25.2	298	28.6	747
5 Women	962	279	29.0	305	31.7	657
Age						
6 15 to 24	397	39	9.9	46	11.5	351
7 25 to 54	1,460	455	31.2	504	34.5	955
8 25 to 44	1,087	312	28.7	347	32.0	740
9 45 to 54	373	143	38.4	157	42.1	216
10 55 and over	151	49	32.5	54	35.5	97
Education						
11 Less than Grade 9	48	9	19.8	10	21.0	38
12 Some high school	296	55	18.5	60	20.3	236
13 High school graduation	462	103	22.2	116	25.0	347
14 Some postsecondary	214	47	21.8	52	24.3	162
15 Postsecondary certificate or diploma	658	207	31.4	228	34.6	431
16 University degree	329	123	37.3	138	42.0	191
Work status						
17 Full-time	1,637	460	28.1	514	31.4	1,123
18 Part-time	371	83	22.4	90	24.2	281
Industry						
19 Goods-producing	467	92	19.7	106	22.7	361
20 Agriculture	33	--	--	--	--	32
21 Other primary	101	16	15.9	18	17.5	83
22 Utilities	19	10	55.1	13	69.0	6
23 Construction	109	19	17.8	22	20.6	87
24 Manufacturing	205	45	22.1	52	25.2	153
25 Service-producing	1,541	451	29.3	498	32.3	1,043
26 Trade	328	35	10.6	41	12.3	288
27 Transportation and warehousing	113	50	44.1	52	46.3	61
28 Finance, insurance, real estate and leasing	103	9	8.3	11	11.0	91
29 Professional, scientific and technical	83	4	4.3	6	6.7	78
30 Management, and administrative and support	57	6	10.2	7	12.4	50
31 Education	169	105	61.9	117	69.5	51
32 Health care and social assistance	228	125	54.9	131	57.8	96
33 Information, culture and recreation	96	29	30.6	32	33.3	64
34 Accommodation and food	149	4	2.8	5	3.5	144
35 Other	88	7	7.5	8	9.4	80
36 Public administration	127	79	62.4	86	68.3	40

by selected characteristics, 1998 (continued)

British Columbia						
Total	Union member		Union coverage*		Not a union member** No.	
	Total	Density	Total	Density		
'000	'000	%	'000	%	'000	
1,468	513	34.9	538	36.6	931	1
326	258	79.1	268	82.1	58	2
1,142	255	22.3	270	23.6	872	3
752	263	35.0	277	36.8	475	4
716	249	34.8	261	36.4	455	5
237	32	13.4	35	14.9	201	6
1,109	425	38.4	445	40.1	664	7
807	281	34.9	294	36.5	512	8
302	144	47.7	150	49.8	152	9
123	56	45.4	58	46.9	65	10
24	7	30.6	8	31.8	17	11
167	45	27.0	47	28.3	119	12
341	105	30.8	110	32.3	231	13
176	49	28.1	52	29.5	124	14
494	200	40.4	208	42.1	286	15
266	106	40.0	113	42.4	153	16
1,176	434	36.9	454	38.6	722	17
292	79	27.1	84	28.7	208	18
318	110	34.4	115	36.2	203	19
15	--	--	--	--	15	20
40	14	35.1	15	37.5	25	21
13	8	61.8	8	64.4	5	22
73	20	27.4	21	28.1	53	23
177	67	37.9	71	40.0	106	24
1,150	403	35.1	422	36.7	727	25
240	38	15.6	40	16.8	200	26
86	54	62.3	55	64.0	31	27
84	11	13.4	12	14.1	72	28
70	4	6.4	5	7.4	65	29
39	3	7.1	4	9.5	36	30
114	78	68.8	84	73.8	30	31
166	105	63.0	106	64.1	60	32
69	24	34.4	25	36.1	44	33
130	13	10.3	14	10.7	116	34
59	7	11.6	7	11.6	52	35
92	67	72.7	70	76.4	22	36

Table 2B: Union membership and coverage of employees

Prairies							
No.		Union member			Union coverage *		Not a union member **
		Total	Total	Density	Total	Density	
Occupation							
1	Management	189	23	12.0	29	15.2	160
2	Business, finance and administrative	362	93	25.7	105	29.0	257
3	Professional	46	7	16.1	10	21.2	36
4	Administrative	123	23	18.8	27	21.7	96
5	Clerical	193	63	32.4	68	35.5	124
6	Natural and applied sciences	111	26	23.7	30	27.3	81
7	Health	114	81	70.6	84	73.2	31
8	Professional	13	6	43.7	7	50.6	7
9	Nursing	41	35	84.9	35	86.9	5
10	Technical	29	20	70.4	21	72.6	8
11	Support staff	32	20	63.8	21	65.7	11
12	Social and public service	151	82	54.5	91	60.2	60
13	Legal, social and religious workers	57	17	29.7	19	32.9	38
14	Teachers and professors	93	65	69.8	72	77.0	21
15	Secondary and elementary	66	54	81.9	58	87.0	9
16	Other	27	11	39.9	14	52.3	13
17	Culture and recreation	35	9	26.2	11	30.6	25
18	Sales and service	539	93	17.3	104	19.4	434
19	Wholesale	60	5	8.2	7	11.9	53
20	Retail	130	15	11.8	16	12.4	114
21	Food and beverage	86	5	5.5	5	6.1	81
22	Protective services	32	15	47.1	17	53.9	15
23	Child care and home support	43	13	30.1	14	33.2	29
24	Travel and accommodation	187	40	21.5	44	23.6	143
25	Trades, transport and equipment operators	314	91	29.1	100	31.9	214
26	Contractors and supervisors	17	4	25.9	5	31.0	11
27	Construction trades	41	10	24.0	11	27.5	30
28	Other trades	116	36	31.3	40	34.3	76
29	Transportation equipment operators	86	30	34.6	32	37.4	54
30	Helpers and labourers	55	11	20.3	12	22.1	43
31	Occupations unique to primary industry	71	8	11.4	10	13.7	61
32	Occupations unique to production	121	36	30.0	40	32.9	81
33	Machine operators and assemblers	93	28	29.8	31	33.2	62
34	Labourers	28	9	30.6	9	32.1	19
Workplace size							
35	Under 20 employees	774	86	11.1	100	12.9	674
36	20 to 99 employees	656	188	28.6	213	32.4	443
37	100 to 500 employees	381	163	42.8	177	46.4	204
38	Over 500 employees	196	106	54.3	114	58.3	82
Job tenure							
39	1 to 12 months	566	70	12.3	82	14.6	484
40	Over 1 year to 5 years	612	113	18.5	131	21.4	481
41	Over 5 years to 9 years	255	78	30.6	85	33.4	170
42	Over 9 years to 14 years	222	93	41.8	101	45.6	121
43	Over 14 years	351	189	53.8	203	57.9	148
Job status							
44	Permanent	1,773	488	27.5	542	30.6	1,231
45	Non-permanent	234	55	23.5	61	26.2	173

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

by selected characteristics, 1998 (concluded)

British Columbia						
Total	Union member		Union coverage*		Not a union member**	No.
	Total	Density	Total	Density		
'000	'000	%	'000	%	'000	
135	14	10.7	17	12.9	117	1
276	89	32.3	94	34.1	182	2
35	7	20.1	7	21.4	27	3
86	22	25.0	24	27.5	62	4
155	60	39.0	63	40.5	92	5
83	27	32.4	27	33.0	55	6
82	62	74.8	62	75.7	20	7
9	4	49.3	5	53.4	4	8
31	29	92.9	29	93.2	2	9
22	14	66.6	15	67.6	7	10
21	14	66.7	14	67.3	7	11
104	62	60.1	66	63.8	38	12
42	17	41.1	18	43.5	24	13
61	45	73.3	48	77.8	14	14
45	38	84.1	39	86.4	6	15
16	7	43.5	9	54.1	8	16
30	10	35.1	11	38.2	18	17
425	102	23.9	106	25.0	319	18
46	6	13.4	7	15.1	39	19
106	17	16.0	18	17.0	88	20
74	9	12.1	9	12.3	65	21
24	12	51.3	13	55.3	11	22
36	18	50.1	18	51.6	17	23
140	39	28.3	41	29.2	99	24
212	99	46.6	102	48.3	110	25
13	5	37.8	5	38.5	8	26
30	11	36.2	11	36.9	19	27
76	37	49.1	39	51.1	37	28
56	29	52.7	30	54.1	26	29
37	16	43.4	17	46.6	20	30
38	8	21.3	9	22.4	29	31
84	40	47.1	42	49.5	43	32
60	27	45.5	29	47.9	31	33
24	12	51.0	13	53.5	11	34
588	93	15.8	98	16.7	490	35
510	184	36.2	195	38.2	315	36
257	149	57.9	155	60.2	102	37
114	87	76.5	90	79.0	24	38
351	56	15.9	63	17.9	288	39
475	118	24.9	125	26.3	350	40
231	97	42.1	100	43.3	131	41
164	85	52.0	87	53.3	76	42
248	156	63.0	163	65.7	85	43
1,312	468	35.6	488	37.2	824	44
156	45	29.0	50	31.8	106	45

** Workers who are neither union members nor covered by collective agreements.

† Public sector: employees in government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions; private sector: all other wage and salary earners.

Table 3: Average earnings and usual hours by union and job status, 1998

	Canada				Atlantic			
	Total	Union member	Union coverage *	Not a union member **	Total	Union member	Union coverage *	Not a union member **
Both sexes								
Average hourly earnings (\$)	15.81	18.77	18.69	14.39	13.06	16.86	16.79	11.30
Full-time employees	16.78	19.06	19.00	15.57	13.85	17.00	16.96	12.17
Part-time employees	11.39	16.80	16.56	9.81	9.16	15.34	15.08	7.99
Average weekly earnings (\$)	582.85	687.04	685.45	532.08	492.77	638.51	636.57	425.14
Full-time employees	666.02	738.81	737.68	627.06	559.90	669.49	668.68	501.01
Part-time employees	203.48	334.24	327.82	165.37	161.95	307.52	300.36	134.54
Average usual weekly hours, main job	35.7	36.4	36.4	35.3	36.6	37.9	37.9	36.1
Full-time employees	39.8	38.8	38.9	40.2	40.6	39.5	39.6	41.1
Part-time employees	17.2	19.5	19.4	16.6	17.2	19.9	19.7	16.7
Men								
Average hourly earnings (\$)	17.36	19.68	19.62	16.17	14.38	17.67	17.62	12.80
Full-time employees	18.12	19.88	19.84	17.15	15.00	17.79	17.76	13.52
Part-time employees	10.39	15.78	15.49	9.28	8.37	13.95	13.61	7.69
Average weekly earnings (\$)	683.09	764.44	763.40	640.89	581.94	707.39	706.28	521.38
Full-time employees	738.99	788.93	788.69	710.71	628.26	721.87	722.04	577.87
Part-time employees	173.92	302.02	294.88	147.69	137.18	259.70	251.24	122.18
Average usual weekly hours, main job	38.6	38.8	38.8	38.5	39.9	40.3	40.3	39.7
Full-time employees	41.0	39.8	39.9	41.7	42.4	41.0	41.1	43.1
Part-time employees	16.2	18.5	18.5	15.7	16.0	18.5	18.3	15.7
Women								
Average hourly earnings (\$)	14.11	17.71	17.58	12.51	11.65	15.95	15.86	9.75
Full-time employees	14.96	17.89	17.78	13.52	12.37	16.00	15.93	10.42
Part-time employees	11.80	17.08	16.85	10.05	9.48	15.68	15.45	8.12
Average weekly earnings (\$)	473.07	595.91	592.49	417.82	397.56	561.80	558.35	324.77
Full-time employees	567.59	667.02	663.85	518.45	471.98	603.33	600.79	401.59
Part-time employees	215.41	342.93	337.03	173.27	172.00	318.94	312.88	139.99
Average usual weekly hours, main job	32.6	33.5	33.6	32.1	33.2	35.2	35.1	32.3
Full-time employees	38.0	37.4	37.4	38.3	38.3	37.7	37.8	38.6
Part-time employees	17.6	19.7	19.6	16.9	17.7	20.2	20.1	17.2

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

** Workers who are neither union members nor covered by collective agreements.

Table 3: Average earnings and usual hours by union and job status, 1998 (continued)

	Quebec				Ontario			
	Total	Union member	Union coverage *	Not a union member **	Total	Union member	Union coverage *	Not a union member **
Both sexes								
Average hourly earnings (\$)	15.51	18.20	18.06	13.82	16.50	19.44	19.41	15.30
Full-time employees	16.25	18.23	18.15	14.86	17.64	19.87	19.86	16.61
Part-time employees	12.03	17.95	17.48	9.70	11.25	15.99	15.87	10.18
Average weekly earnings (\$)	558.82	646.82	644.99	501.35	613.73	728.63	727.68	566.28
Full-time employees	628.95	687.92	686.58	587.00	703.78	781.58	781.60	667.66
Part-time employees	224.42	378.54	365.90	163.97	196.50	308.01	304.56	171.63
Average usual weekly hours, main job	35.2	35.6	35.7	34.8	35.9	37.1	37.1	35.3
Full-time employees	38.8	37.9	38.0	39.4	39.9	39.4	39.4	40.2
Part-time employees	17.8	20.4	20.2	16.7	16.9	19.1	19.0	16.4
Men								
Average hourly earnings (\$)	16.82	18.73	18.67	15.47	18.11	20.33	20.33	17.07
Full-time employees	17.41	18.80	18.77	16.34	19.00	20.62	20.64	18.17
Part-time employees	11.36	17.55	16.97	9.59	10.11	14.16	14.08	9.42
Average weekly earnings (\$)	644.81	707.82	707.99	598.70	714.88	799.86	800.23	675.04
Full-time employees	693.31	728.66	729.52	664.69	776.03	825.31	826.86	750.17
Part-time employees	196.70	358.37	342.93	150.40	165.70	255.77	254.57	150.29
Average usual weekly hours, main job	37.8	37.9	38.0	37.6	38.5	39.1	39.1	38.3
Full-time employees	40.1	39.0	39.1	40.8	41.1	40.1	40.2	41.5
Part-time employees	16.5	19.6	19.4	15.6	16.0	17.9	17.8	15.6
Women								
Average hourly earnings (\$)	14.02	17.53	17.28	12.07	14.75	18.28	18.20	13.49
Full-time employees	14.62	17.37	17.17	12.97	15.83	18.72	18.65	14.67
Part-time employees	12.31	18.08	17.65	9.75	11.72	16.52	16.41	10.53
Average weekly earnings (\$)	460.74	570.33	564.21	398.57	503.30	636.11	633.44	455.79
Full-time employees	539.46	625.40	619.54	487.59	607.62	713.85	711.58	565.14
Part-time employees	236.32	384.76	373.20	170.52	209.37	323.24	319.71	181.16
Average usual weekly hours, main job	32.2	32.7	32.8	31.8	32.9	34.5	34.5	32.3
Full-time employees	37.1	36.3	36.3	37.5	38.5	38.2	38.2	38.5
Part-time employees	18.3	20.7	20.5	17.2	17.3	19.4	19.3	16.8

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

** Workers who are neither union members nor covered by collective agreements.

Table 3: Average earnings and usual hours by union and job status, 1998 (concluded)

	Prairies				British Columbia			
	Total	Union member	Union coverage *	Not a union member **	Total	Union member	Union coverage *	Not a union member **
Both sexes								
Average hourly earnings (\$)	14.71	17.51	17.49	13.52	17.21	20.47	20.44	15.34
Full-time employees	15.69	17.94	17.93	14.67	18.23	20.82	20.83	16.59
Part-time employees	10.40	15.12	14.98	8.94	13.10	18.54	18.32	11.00
Average weekly earnings (\$)	552.52	642.25	644.84	512.84	622.21	730.05	730.76	559.49
Full-time employees	635.71	704.23	705.86	603.61	719.21	798.74	801.53	667.50
Part-time employees	185.27	298.79	294.92	150.32	231.77	353.33	348.07	184.90
Average usual weekly hours, main job	36.2	36.2	36.4	36.1	35.0	35.3	35.4	34.8
Full-time employees	40.5	39.2	39.4	41.0	39.4	38.4	38.5	40.0
Part-time employees	17.3	19.5	19.4	16.6	17.2	18.6	18.5	16.6
Men								
Average hourly earnings (\$)	16.47	18.87	18.85	15.52	18.90	21.64	21.62	17.32
Full-time employees	17.22	19.15	19.13	16.41	19.74	21.89	21.90	18.39
Part-time employees	9.00	13.17	13.21	8.27	12.09	18.05	17.70	10.47
Average weekly earnings (\$)	667.03	747.77	748.57	634.44	735.19	829.23	830.11	679.85
Full-time employees	719.56	773.47	774.22	696.21	800.32	863.01	865.35	759.42
Part-time employees	147.23	238.09	239.18	131.11	207.37	346.19	337.46	169.85
Average usual weekly hours, main job	39.7	39.4	39.6	39.7	38.0	38.1	38.2	37.9
Full-time employees	42.0	40.5	40.6	42.6	40.6	39.5	39.6	41.3
Part-time employees	16.1	17.9	17.9	15.8	16.5	18.4	18.3	16.0
Women								
Average hourly earnings (\$)	12.80	16.23	16.16	11.25	15.42	19.22	19.18	13.27
Full-time employees	13.57	16.48	16.44	12.13	16.22	19.40	19.41	14.21
Part-time employees	10.88	15.47	15.31	9.21	13.50	18.68	18.50	11.23
Average weekly earnings (\$)	428.19	542.61	543.40	374.69	503.44	625.34	625.07	433.83
Full-time employees	519.97	621.01	621.36	469.06	611.90	714.39	716.94	546.04
Part-time employees	198.55	309.72	305.51	158.17	241.39	355.32	351.08	191.60
Average usual weekly hours, main job	32.5	33.2	33.4	32.0	31.9	32.4	32.4	31.6
Full-time employees	38.4	37.8	37.8	38.6	37.8	36.9	37.0	38.4
Part-time employees	17.7	19.8	19.7	16.9	17.4	18.7	18.6	16.9

Source: Labour Force Survey

* Union members and persons who are not union members, but who are covered by collective agreements (for example, some religious group members).

** Workers who are neither union members nor covered by collective agreements.

Table 4: Wage settlements and labour disputes

Year	Major wage settlements and inflation rates *				Strikes and lockouts, workers involved, and person-days and working time lost **			
	Average annual percentage increase in base wage rates				Strikes & lockouts	Workers involved	Person-days not worked	Percentage of estimated working time
	Public sector †	Private sector †	Both sectors	Annual change in Consumer Price Index				
			%			'000	'000	%
1980	10.9	11.7	11.1	10.2	1,028	439	9,130	0.37
1981	13.1	12.6	13.0	12.4	1,049	341	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.7	645	329	4,441	0.18
1984	3.9	3.2	3.6	4.4	716	187	3,883	0.15
1985	3.8	3.3	3.7	3.9	829	162	3,126	0.12
1986	3.6	3.0	3.4	4.2	748	484	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	4.0	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.0	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	270	5,079	0.17
1991	3.4	4.4	3.6	5.6	463	253	2,516	0.09
1992	2.0	2.6	2.1	1.5	404	150	2,110	0.07
1993	0.6	0.8	0.6	1.8	381	102	1,517	0.05
1994	-	1.3	0.3	0.2	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.1	328	149	1,583	0.05
1996	0.5	1.8	0.9	1.6	330	282	3,352	0.11
1997	1.2	1.8	1.5	1.6	284	258	3,610	0.12
1998	1.6	1.8	1.6	1.0	378	233	2,466	0.08
1999	1.5	2.3	1.7	1.0	127	63	709	0.09

Sources: Statistics Canada, Prices Division; Human Resources Development Canada, Workplace Information Directorate
 Note: Major wage settlements refer to agreements involving 500 or more employees.

* 1999 data refer to January to April only.

** 1999 data refer to January to March only.

† Public sector employees are those working for government departments or agencies, crown corporations or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Data sources

Information on union membership, density and coverage by various sociodemographic characteristics, including earnings, are from the redesigned Labour Force Survey (LFS), which came into effect January 1997. Further details on LFS-based union statistics can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at (613) 951-2793.

Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources Development Canada. Further information on these statistics may be obtained from Angèle Charbonneau, Workplace Information Directorate, HRDC at 1 800 567-6866.

What's new?

Recent reports and studies

■ UPCOMING RELEASE

■ *Latest on the labour force*

The official unemployment rate is not the only summary measure of labour market slack. Additional information from the Labour Force Survey can help explain the degree to which the labour market is not matching its potential.

For example, a considerable number of people are "underemployed." They work part time but would prefer to work full-time hours. Like the unemployed, they are underused, albeit only partly.

Others, on the margins of the labour force, expressed a desire to work but were not looking for a job and therefore were not counted among the officially unemployed. Of particular interest are those who did not look for work for economic reasons: discouraged searchers; and people waiting for reply, recall or a job to start in five weeks or more.

This issue of *Labour Force Update* profiles the unemployed and also provides a more detailed look at labour market slack. A new set of summary indicators called "supplementary measures of unemployment" is introduced.

The Summer 1999 issue of the *Labour Force Update* (Catalogue no. 71-005-XPB, \$29), titled "Unemployment and other measures of labour underutilization" will be available soon. For additional information, contact Jeannine Usalcas at (613) 951-4720; fax (613) 951-2869; usaljea@statcan.ca.

■ JUST RELEASED

■ *Earnings Supplement Project and the Self-Sufficiency Project*

Statistics Canada has made available preliminary data from two studies: the Earnings Supplement Project and the Self-Sufficiency Project Applicant Baseline and the first two follow-up surveys. Funded by Human Resources Development Canada, these studies are research demonstration projects managed by the Social Research and Demonstration Corporation and conducted jointly with Statistics Canada.

The Earnings Supplement Project evaluated the effect of an earnings supplement on the re-employment of workers who had received Employment Insurance (EI) benefits. Eligible participants who gave up EI for full-time work within a specific period of time and had to take a new job that paid less than their previous one could receive a supplement that made up 75% of the earnings loss for up to two years. The project, conducted in selected cities in Canada, measured the effect of these earnings supplements on employment rates, earnings, Employment Insurance receipts, and other outcomes.

The Self-Sufficiency Project was designed to determine the effectiveness of an earnings supplement for single parents formerly on the Income Assistance Program who had found full-time jobs. The earnings supplement was offered for a limited three-year period to each eligible individual. The project, conducted in New Brunswick and British Columbia, evaluated the effect of the earnings supplement on the employment rates, earnings, family income, income assistance receipt and other outcomes.

For further information on the findings from these two projects, contact the Social Research Demonstration Corporation at (613) 237-4311, or Marc Lachance at (613) 951-2902 or Richard Veevers at (613) 951-4617, Special Surveys Division, Statistics Canada.

■ *First Nations communities*

In collaboration with the Rural Secretariat, Agriculture and Agri-food Canada, Statistics Canada released the eighth in a series of analysis bulletins profiling trends in rural Canada.

Geographical Patterns of Socio-economic Well-being of First Nations Communities shows that First Nations communities in the Prairie provinces and Canadian Shield locations typically have the poorest education, housing, employment and income. Southern British Columbia and B.C. coastal communities, along with southern Ontario communities, have relatively good conditions.

Between 1986 and 1996, this geographic pattern changed little. These communities appear to be poorly integrated with the surrounding non-Aboriginal society and economy – at least in ways that are mutually beneficial.

Geographical Patterns of Socio-economic Well-being of First Nations Communities (Catalogue no. 21-006-XIE, free) is available on the Internet (www.statcan.ca). For more information contact Robin P. Armstrong at (613) 951-4995 or 1 800 465-1991; fax: (613) 951-0387; armsrob@statcan.ca, Housing, Family and Social Statistics Division.

■ *Adult education and training*

In 1997, more than 6 million people, or 28% of Canadian adults, participated in adult education and training activities. As previously shown, age and level of educational attainment continue to be important factors in the decision to participate in such activities. The percentages of adults participating range from 5% for those over 64 years to 39% for those aged 17 to 34.

The influence of education on participation rates is also evident. Rates range from 11% among those with less than a high school diploma to 48% among those with a university degree.

Canadians invest in education mainly to remain competitive in the labour market. Three out of four adults participating in an education or training activity (21% of the adult population) reported doing so for job-related purposes; one in ten, for personal interest or leisure reasons.

Among the labour force population, 29% of the employed and 20% of the unemployed participated in job-related adult education and training activities. Only 6% of those not in the labour force did the same. Among the employed, 32% of paid workers participated, compared with 18% of self-employed workers. Almost one-quarter of the employed population enrolled in job-related education or training activities sponsored by their employer.

A microdata file from the 1998 Adult Education and Training Survey is now available. A joint Statistics Canada and Human Resources Development Canada analytical report will be released this autumn.

For more information about the survey results and related products and services, or to enquire about concepts, methods or data quality, contact Client Services at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; ssd@statcan.ca, Special Surveys Division, or Robert Couillard at (613) 951-1519; fax: (613) 951-9040; couirob@statcan.ca, Centre for Education Statistics.

■ *Work absences*

Work Absence Rates, 1987-1998 provides up-to-date benchmark data on work absences for personal reasons – illness or disability and personal or family responsibilities. Based on data from the Labour Force Survey and using the Standard Occupational Classification system and North American Industry Classification System (NAICS), it provides absence rates for 1998 by sex, education, age, presence of children, industry, occupation, firm size, job tenure, job permanency, unionization, province and census metropolitan area. Time series from 1987 to 1998 are also provided. (See article entitled “Missing work in 1998 – industry differences” in this issue.)

Work Absence Rates, 1987 to 1998 (Catalogue no. 71-535-MPB, no. 10, \$50) is now available. For further information, contact Ernest B. Akyeampong, Labour and Household Surveys Analysis Division at (613) 951-4624; fax (613) 951-4179; akyeern@statcan.ca.

■ *New bulletin on innovation*

The Science, Innovation and Electronic Information Division has launched a new publication. *Innovation Analysis Bulletin*, designed to be easily readable by non-experts, summarizes and highlights new results in the analysis of science, technology and the information society.

The table of contents will vary from issue to issue. The specific topics to be covered include government science and technology activities; industrial research and development; intellectual property commercialization; advanced technologies and innovation; biotechnology and technology use connectedness; telecommunications and broadcasting; and electronic commerce.

Innovation Analysis Bulletin (Catalogue no. 88-003-XIE, free) is now available on the Internet (www.statcan.ca). For more information contact the Science, Innovation and Electronic Information Division at (613) 951-2587.

■ WHAT'S NEW IN INCOME STATISTICS?

■ *Family income after tax*

After adjusting for inflation, estimated after-tax family income remained essentially unchanged in 1997 for the third consecutive year. Apart from a modest increase in 1994, the average declined throughout the early 1990s.

Average after-tax family income in 1997 (from the annual Survey of Consumer Finances) was estimated at \$45,605, about 6% less than in 1989, the peak year for income. Transfer payments averaged \$6,474, some 10% lower than their peak in 1993, while average income tax was \$11,541, down slightly from its high in 1996.

Since most income before government transfers comes from earnings (90%), changes in pre-transfer income are driven largely by wage settlements and labour market conditions. The Labour Force Survey indicated that employment grew by 1.9% in 1997, while average hours worked per week increased 0.5% to 37.9. Average weekly earnings in 1997 were essentially unchanged as well, with Statistics Canada's Survey of Employment, Payrolls and Hours reporting a gain of just 0.5%. At the same time, however, government transfer payments declined slightly, as the trend to lower transfers continued in 1997.

Government transfer payments and income taxes work in concert to narrow the after-tax income gap between those at the top and those at the bottom of the income scale. Average 1997 income for families in the lowest quintile was \$16,876 after taxes and transfers, more than triple their \$5,367 gross income before transfers. Families in the top quintile, on the other hand, saw their average income reduced to \$85,516 after taxes from a pre-tax, pre-transfer average of \$112,129.

Average transfers were \$6,474 in 1997, down 4% from 1996, as benefits from social assistance and Employment Insurance declined again. For the first time since 1980, average transfers fell for families in all quintiles, including the lowest. Transfers peaked in 1993, responding to somewhat unfavourable labour market conditions. The average has been declining steadily since then.

Average family income tax in 1997 was stable, at an estimated \$11,541, following the high seen in 1996. The absence of real movement reflects the fact that total family income was essentially unchanged in 1997. Income taxes had been trending upwards (an average \$336 per year between 1993 and 1996), owing mainly to increased earnings, as employment recovered from the losses of the last recession. Income tax brackets that were not adjusted for inflation also contributed to higher taxes.

Statistics are presented for families of two or more persons, unattached individuals, all families, and individuals with income in the full report, *Income after Tax, Distributions by Size in Canada, 1997* (Catalogue no. 13-210-XPB, \$31).

■ *Spending patterns*

Spending Patterns in Canada, 1997 has recently been released. The report presents the results of the 1997 Survey of Household Spending (SHS), conducted in January through March 1998. Information about the spending habits, dwelling characteristics and household equipment of households during 1997 was obtained by asking people in the 10 provinces and 2 territories to recall their expenditures for the previous calendar year.

The report's seven sections focus on such themes as regional spending patterns, spending patterns of households in different income groups, household spending for selected household types, and rural and urban differences in household spending. Following are highlights:

- Households spent, on average, an estimated \$49,900 on everything from child care to travel to communications in 1997, virtually unchanged from 1996.
- Personal income taxes continue to make up the largest share of household spending. In 1997, households spent an average 21 cents of every dollar on personal income taxes, 20 cents on shelter, 12 cents on transportation and 11 cents on food.
- The remaining 36 cents was spent on such items as recreation, personal insurance and pension contributions, household operations, clothing, gifts and contributions to charity.
- Personal income taxes averaged \$10,600, essentially unchanged from 1996 (\$10,700). Households spent \$9,800 on shelter costs in 1997, \$5,700 on food and \$6,200 on transportation, also virtually unchanged from 1996.
- The one-fifth (quintile) of households with the lowest incomes spent \$16,700, compared with \$97,900 for the highest quintile. After adjusting for differences in household size, the average expenditure per person was \$10,200 in the lowest.
- Consistent with household income patterns, Ontario households had the highest average spending in 1997 among the provinces, about \$55,300. This compares with \$38,400 for

Newfoundland, whose households had the lowest overall spending. Yukon and the Northwest Territories had average household expenditures of \$58,600 and \$63,200, respectively.

SHS collects information broadly comparable to the former Family Expenditure Survey (FAMEX), but with several noteworthy differences. SHS is annual, whereas FAMEX was conducted every four years. The SHS sample is 50% larger, but the number of detailed expenditure categories is smaller, to reduce respondent burden. As well, housing information formerly collected in the Household Facilities and Equipment Survey is now part of SHS and can be analyzed in the context of household expenditure patterns.

Spending Patterns in Canada, 1997 (Catalogue no. 62-202-XPB-XIB) is now available. Tables presenting detailed expenditure data are also available and custom tabulations can be obtained.

■ *Family incomes (census families)*

A new publication from the Survey of Consumer Finances (SCF) presents data on average family income and on the distribution of families by income group and various characteristics for 1997. Historical data from 1980 to 1997 by family type (for example, two-parent or lone-parent families) are presented as well.

This report, *Family Incomes, Census Families, 1997* (Catalogue no. 13-208-XIB), uses a narrower concept of the family (the census family) than the "economic family" referred to in the survey's main report, *Income Distributions by Size in Canada, 1997* (Catalogue no. 13-207-XPB), released April 14, 1999. Census families consist of married couples and parents with never-married children, whereas economic families include everyone related by blood, marriage or adoption and sharing a common dwelling unit.

Historical data on average census family income by family type are available free on the Internet (www.statcan.ca) under "Canadian statistics," then "The people – Families, households and housing" followed by "Income."

■ *Survey of Consumer Finances looks at earnings*

According to the Survey of Consumer Finances, average annual earnings from employment remained essentially unchanged in 1997 for both men and women who worked 30 or more hours per week for the full year, after adjusting for inflation.

Average annual earnings for men working full time have fluctuated within a narrow range during the last two decades, with the 1997 average of \$42,600 virtually identical to the inflation-adjusted average of 1980. Unlike men, women have experienced a general upward trend: their 1997 average of \$30,900 was 13% higher than in 1980.

Women working full time throughout 1997 earned, on average, 73 cents for each dollar earned by their male counterparts, basically unchanged from 1996. In 1967, women earned 58 cents for each dollar earned by men.

Earnings of Men and Women, 1997 (Catalogue no. 13-217-XPB) presents the latest data on average and median annual earnings of women and men by work activity ("full-year full-time" and "other") and on the distribution of earners by earnings groups and various characteristics. Historical data on averages, estimated numbers and female-to-male earnings ratios by work activity and selected characteristics for the period from 1980 to 1997 are also presented.

■ *Survey of Financial Security*

Although income and expenditure data provide an indication of current consumption and ability to purchase goods and services, they provide little information on the long-term ability of families to sustain themselves. The results of this survey will provide information on the net worth (wealth) of Canadian families, that is, the value of their assets less their debts.

Survey of Financial Security: Update explains the objectives of the survey and indicates how the survey has changed since 1984, when it was last conducted. It also describes the types of questions asked and information provided, as well as giving other background about the survey. It describes the work to date and the next steps for this important subject. An accompanying table outlines the content of the questionnaire.

For more information about these surveys and related products and services, contact Client Services, Income Statistics Division at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; income@statcan.ca.

Perspectives

Did you miss...

Unionization in Canada: A Retrospective, a supplement to our last issue of *Perspectives*, summarizes labour union membership statistics up to 1995, the latest year for which CALURA (Corporations and Labour Unions Returns Act) data are available. It reviews some of the major economic and labour market trends of the past three decades, and briefly examines how these changes may have affected union membership (numbers and rates).

Unionization in Canada: A Retrospective (Catalogue no. 75-001-SPE, \$20) is available through the Statistics Canada website (www.statcan.ca), our Order Desk (1 800 267-6677 or order@statcan.ca), or our regional reference centres.

Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Fiona Long at (613) 951-4628; longfio@statcan.ca or Joanne Bourdeau at (613) 951-4722; bourjoa@statcan.ca.

Administrative data

Small area and administrative data

Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures

Frequency: Annual
Contact: Richard Vincent
(613) 951-4070

Business Conditions Survey of Manufacturing Industries

Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics

Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics

Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey

Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Employment, Payrolls and Hours

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program

Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements

Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117

Labour income

Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Consumer Finances

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Household Spending (replaces Household Facilities and Equipment Survey and Family Expenditure Survey)

Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General Social Survey

Education, work and retirement

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use

Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey

Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trusteed Pension Funds

Frequency: Quarterly
Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements

Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

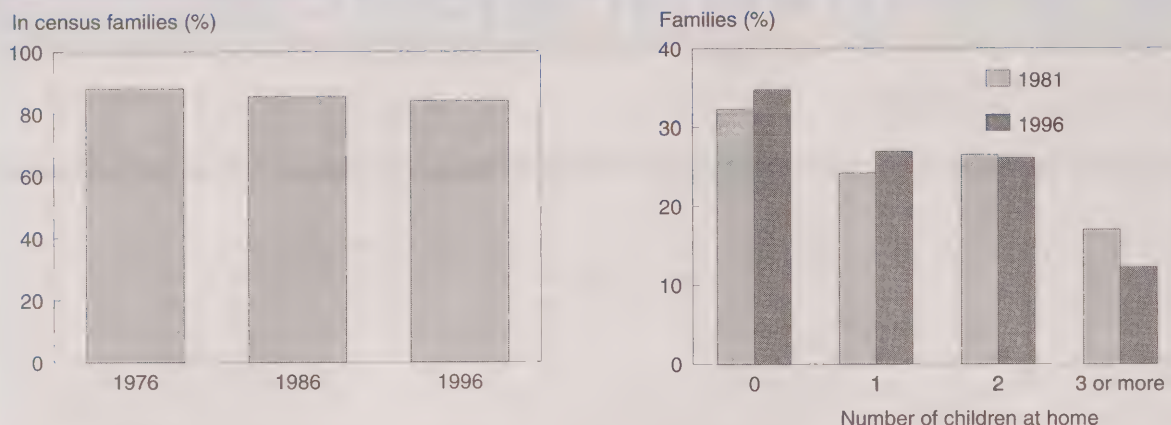
Adult Education and Training Survey

Frequency: Occasional
Contact: Steve Arrowsmith
(613) 951-0566

Graduate Surveys

(Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

Most Canadians still live in census families, but families are smaller.



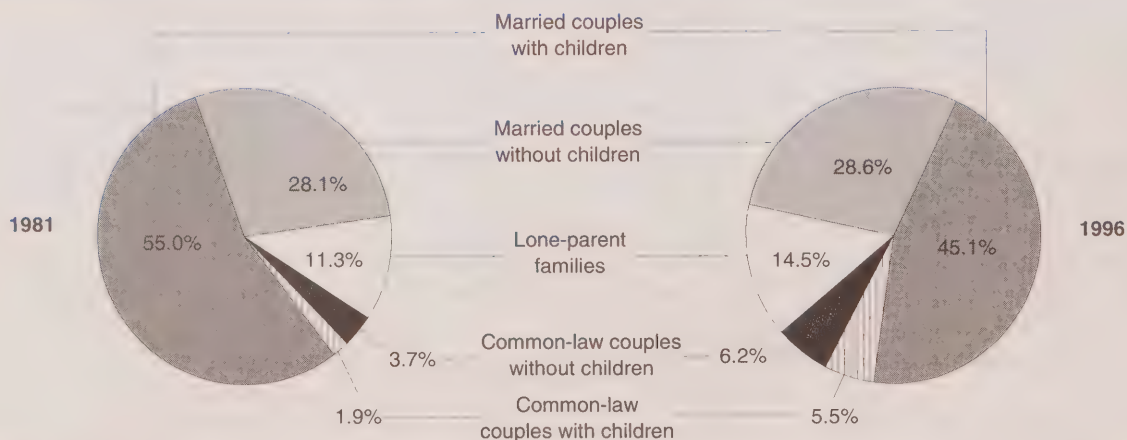
Source: Census of Canada

In 1996, some 84% of all persons lived as a partner in a couple, a lone parent or a child in a census family, down from 88% in 1976.

However, today's families are more diverse. In 1996, 45% of all families were married couples with children, down from 55% in 1981. During the same period, the proportion of common-law couples (with or without children) and single parents increased.

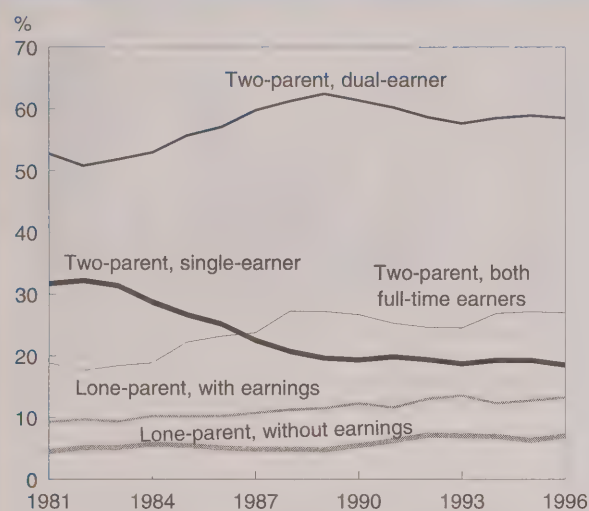
In particular, children are experiencing more diversity in their families as a result of separation, divorce and remarriage. The National Longitudinal Survey of Children showed that in 1994-95, 9% of children up to age 11 lived with a step-parent and 6% lived with stepbrothers or stepsisters.

Common-law and lone-parent families are growing in proportion.



Source: Census of Canada

Less than one-fifth of families are two-parent, single-earner.



Source: Survey of Consumer Finances

Between 1981 and 1996, the number of two-parent families with one earner shrank by more than a third. At the same time, the number of families with two full-time earners increased nearly 60%.

Another rapidly growing family group is lone-parent families. Those with earnings were up 50% over the period and those *without* earnings more than doubled.

In 1981, the ratio of lone-parent to two-parent, single-earner families was 3 to 10; by 1996, this had climbed to 7 to 10.

Two-parent families with one earner tended to be larger than other families, with an average family size of 4.2. The average size of families with both parents working full time was 3.9. Among lone-parent families, those without earnings were somewhat larger than those with earnings (2.8, compared with 2.6).

Definitions:

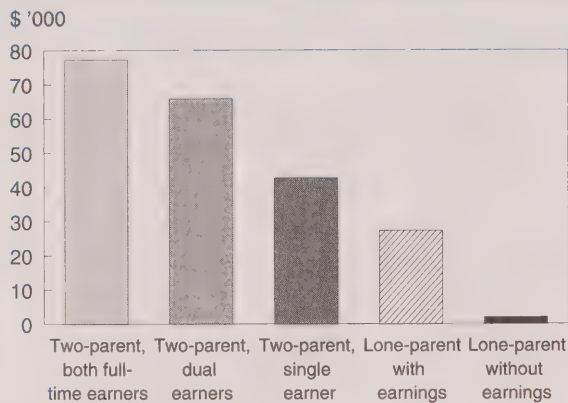
Market income: wages and salaries, self-employment income, investment income, interest, et cetera

Government transfers: Child Tax Benefit, Employment Insurance, workers' compensation, social assistance, et cetera

Income tax: federal and provincial

Disposable (or 'after-tax') income: Market income + government transfers – income tax

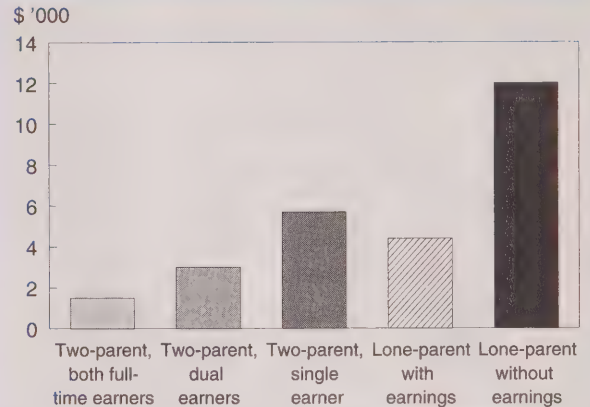
Market income of families



Source: Census of Canada, 1996

The market income of families with two full-time earners was close to 80% more than that of families in which only one parent worked. Transfers and taxes both tend to make the distribution of income across families more equal. Transfers generally work at the lower end, raising the floor of the income distribution.

Government transfers received by families

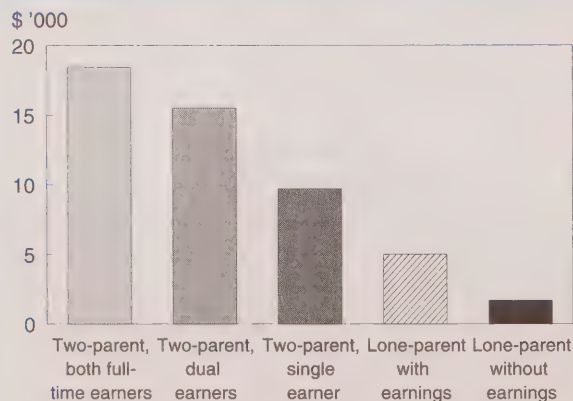


Source: Census of Canada, 1996

Not surprisingly, the pattern of average transfers by family type is the reverse of market income.

Two-parent families with one earner received an average of \$5,700 in government transfers in 1996, compared with \$1,500 for families with both parents working full time.

Income taxes paid by families

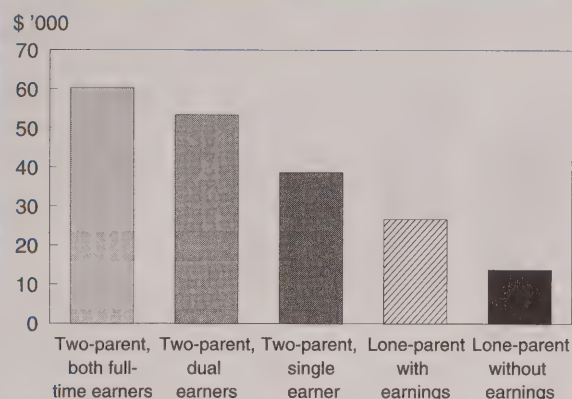


Source: Census of Canada, 1996

Income taxes also reduced inequality by lowering the ceiling of the income distribution. In 1996, the average family with both parents working full time paid \$18,400 in income tax, about *twice* the amount for two-parent families with one earner.

The trends are different for the two groups as well. From 1981 to 1996, income taxes of the average dual-earner family increased 40%, whereas they grew only 21% for the two-parent family with just one earner.

Disposable income of families

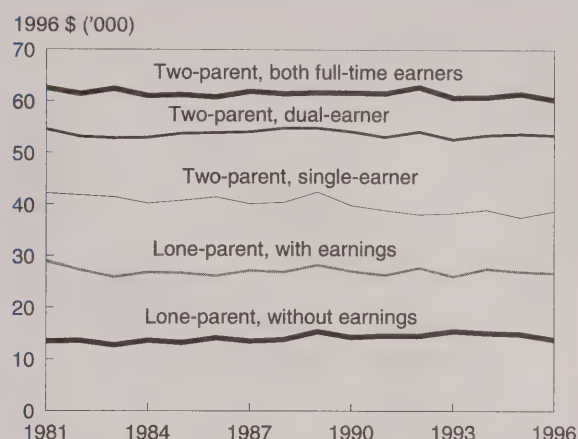


Source: Census of Canada, 1996

After taxes and transfers, the average two-parent family with one earner had about 64% of the income of a family with two full-time earners. Average disposable income ranged from \$13,800 for lone parents without earnings to \$60,300 for families with two full-time earners.

Families with two full-time earners received relatively low transfers and paid relatively high taxes. In 1996, their disposable income was 78% of their market income. Single-earner couples, however, ended up with 91% of their market income.

Real disposable income

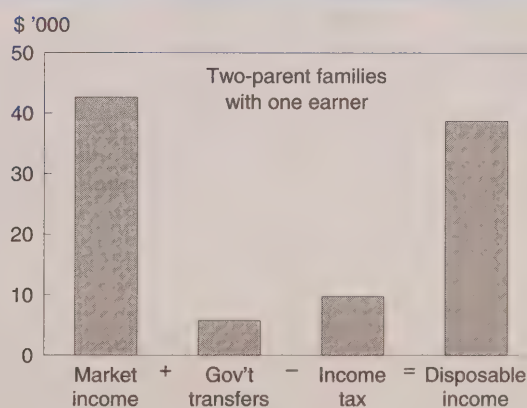
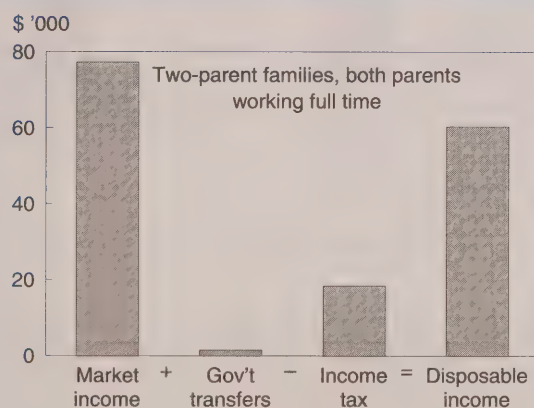


Source: Survey of Consumer Finances

For lone-parent families with earnings, government transfers and income tax were almost equal. In the case of such families without earnings, however, government transfers made up almost 90% of their disposable income.

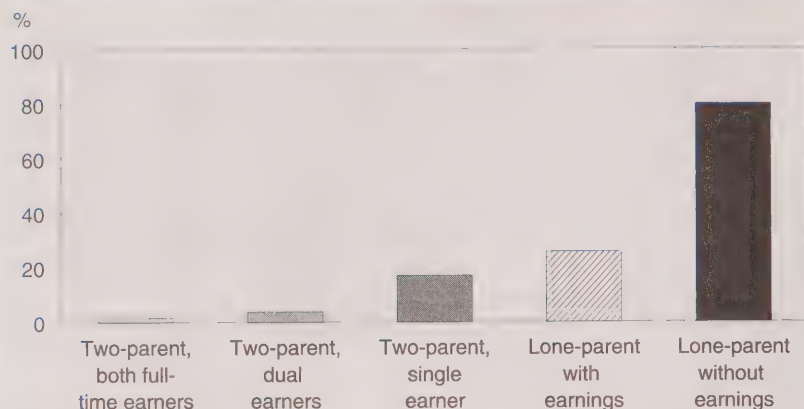
From 1981 to 1996, real incomes were flat. Differences in disposable income from one family type to the next changed very little.

Disposable income averaged 78% of market income for families with two full-time earners and 91% for those with one earner.



Source: Census of Canada, 1996

Prevalence of low income after tax

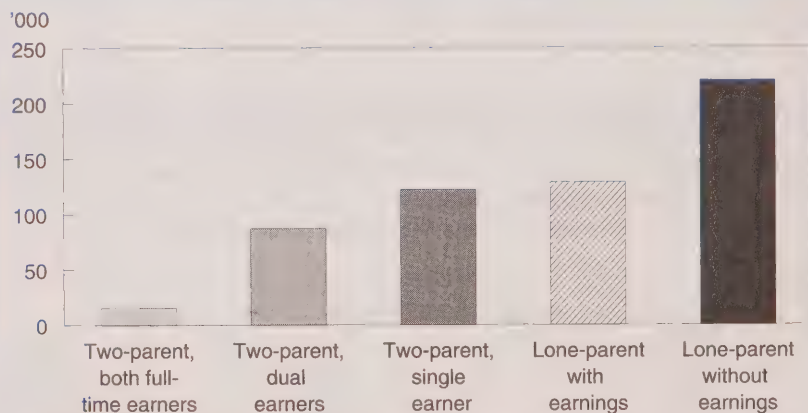


Source: Census of Canada, 1996

Low income rates are based on average family spending on food, shelter and clothing. Families with low income tend to spend more than 64% of their after-tax income on these basics, leaving a relatively small margin to cover transportation, health, education and all other expenditures.

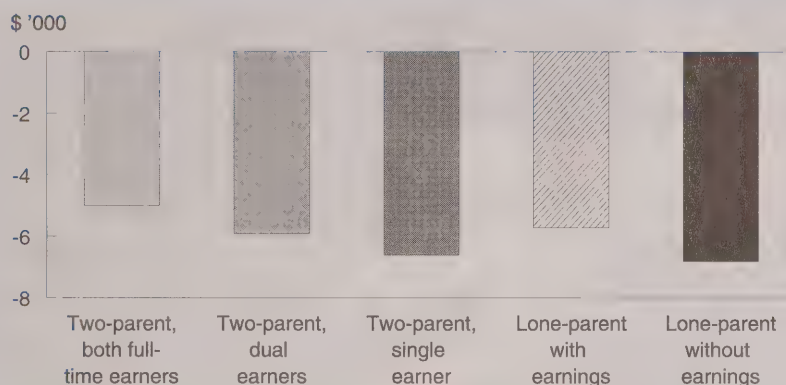
Having two full-time incomes clearly reduced the risk of low income in 1996: the after-tax low income rate for these families was 2%. In contrast, two-parent families with one earner had a low income rate of 17%. However, over a quarter of all lone parents with a job headed up a family with low income. By far the highest low income rate – 80% – was recorded for lone-parent families without earnings.

Families with low income, after tax



Source: Census of Canada, 1996

Average after-tax low income gap of families with low income



Source: Census of Canada, 1996

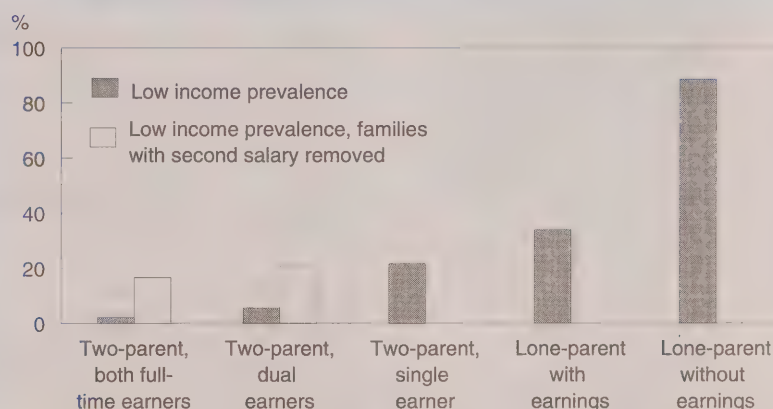
The low income rate is well known, but it classifies families only as *above* or *below* a defined cutoff point. It is also important to know how much it would take to raise a family's income enough to put it above the line. This is referred to as the *average low income gap*.

The largest gaps – between \$6,600 and \$6,800 – were recorded for two-parent, single-earner families and for lone parents without earnings. For families with two parents working full time who nonetheless had low income, the average amount needed to “escape” this category was \$5,000.

For many two-parent families, the second salary was needed to avoid falling into a low income level. In 1996, the low income rate for these families was 2%. Without the second income it would have been 17%.

Different elements affect family earnings, however. Child care needs, for instance, vary from family to family.

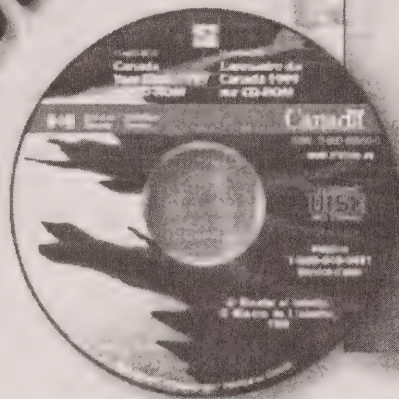
Before-tax low income rate for families



Source: Census of Canada, 1996

Charts and text were adapted from a presentation given by Doug Norris, Director, Housing, Family and Social Statistics Division, and Maryanne Webber, Director, Income Statistics Division, to the Parliamentary Sub-committee on Tax Equity for Canadian Families with Dependent Children of the Standing Committee on Finance. For further information, contact Fiona Long at (613) 951-4628 or longfio@statcan.ca.

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In the works

Some of the topics in upcoming issues

■ Male-female earnings comparison

For many years, the Survey of Consumer Finances has provided data on men's and women's earnings. Since 1997, the Labour Force Survey has been collecting similar data. A look at how the two sources compare.

■ South of the border – class of '95

Only a small percentage of 1995 graduates had moved to the United States by the summer of 1997. This article profiles these emigrants.

■ On the road again – work patterns of truck drivers

A profile of the largest occupational group for men in 1996.

■ The employer pension plan: Can workers prepare for retirement without it?

Membership in employer-sponsored pension plans has been declining. This study examines the retirement savings of former plan participants.

■ Involuntary part-time workers

A discussion of the conceptual, measurement and profile differences of pre- and post-1997 Labour Force Survey data on involuntary part-timers.

■ Working together: self-employed couples

An examination of the characteristics of couples who co-own a business, with a look at the types of business run.

■ Public versus private wage differentials

Two studies examine earnings differentials between public and private sector employees, as well as the factors contributing to the differences (for example, human capital and occupational distribution). One study is based on cross-sectional data, the other on longitudinal.

■ Youths and volunteering

The proportion of youths doing volunteer work jumped from 18% to 33% over 10 years. This paper compares young volunteers of 1987 and 1997 to determine who the new young volunteers are, where they are volunteering and what they are doing.

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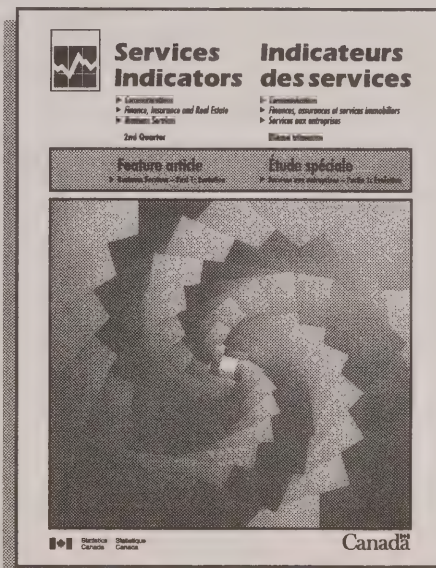
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WINTER 1999

Vol. 11, No. 4

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■ EARNINGS RATIOS

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■ EXPORTS, GDP
AND JOBS

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■ Articles

9 Working together—self-employed couples *Katherine Marshall*

This article notes the growing incidence of self-employment among dual-earner couples and compares their characteristics with those of couples who have paid jobs. It also looks at the occupations and businesses of self-employed couples who co-own a business.

14 Work patterns of truck drivers *Irwin Bess*

Increased interprovincial and cross-border trucking has fuelled the demand for truck drivers. This study examines the hours, earnings and demographic characteristics of workers in one of the most common occupations among men.

20 Women's earnings/men's earnings *Diane Galarneau and Louise Earl*

In addition to the Survey of Consumer Finances, the Labour Force Survey now provides a way of comparing women's earnings with men's. The two measures are explained here, as are the reasons for the sizable gap between them.



PERSPECTIVES

ON LABOUR AND INCOME

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27 Earnings of physicians

Abdul Rashid

Earnings of physicians continue to exceed the overall average. This article presents a demographic and earnings profile of the medical profession and highlights changes between 1980 and 1995.

39 Exports, GDP and jobs

Grant Cameron

The recent increase in exports' share of GDP has been exceptional. Imports have mirrored the trend in exports, with trade across the U.S. border being the driving force for both. Using Statistics Canada's Input-Output tables, this article explores the issue of some goods moving back and forth across the border at various stages of processing. (Adapted from an article in *Canadian Economic Observer* published in November 1999).

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Forum

From the Managing Editor

For the record:

■ In the article "Seniors who volunteer," published in the Autumn 1999 issue, Table 1 provides volunteer participation rates by education. Changes to Labour Force Survey coding in 1990 mean that the 1987 and 1997 breakdowns are slightly different.

Category		Composition
Less than high school	1987	Grades 0-8
	1997	Grades 0-8
		Grades 9-10 Grades 11-13, non-graduate
High school graduation	1987	Some secondary No postsecondary
	1997	Grades 11-13, graduate
Some post-secondary	1987	Some postsecondary
	1997	Some postsecondary Trade certificate or diploma Community college, CEGEP, etc. University certificate below bachelor's
Degree or diploma	1987	Postsecondary certificate or diploma University degree
	1997	Bachelor's degree Graduate degree (master's or doctorate)

As well, the data for 1997 were incorrect and should be replaced by the following:

	Age			
	55+	55-64	65-74	75+
Less than high school	12.9	14.8	14.6	9.1
High school graduation	25.8	27.6	25.9	21.8
Some postsecondary	31.0	36.4	29.2	--
Degree or diploma	36.1	38.8	35.7	28.5

Perspectives

We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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Highlights

In this issue

■ Working together— self-employed couples ... p. 9

- In one-third of dual-earner couples at least one spouse was self-employed in 1998. In 50% of these couples the husband was self-employed while the wife had a paid job; in 22% the wife was self-employed and the husband was an employee; and in 28% both spouses were self-employed. Furthermore, among those dual self-employed couples, more than two-thirds were running the same business together.
- Compared with couples with paid jobs, dual self-employed couples were older and less likely to live in an urban area. Also, self-employed husbands and wives were more likely to work part time, to hold a second job, to have a varied work schedule and to earn less than spouses in paid worker couples.
- Of the 227,000 couples in business together, 28% ran a farm or ranch and 15% owned a retail business.
- While paid worker couples averaged 74 combined weekly work hours, self-employed couples in business together averaged 87 hours. Couples with a business in the food, beverage or accommodation industry worked well over 100 hours per week.
- Most self-employed couples reported having the same occupation within their business. For example, in 24% of couples both spouses reported having an occupation in agriculture.

■ Work patterns of truck drivers ... p. 14

- Truck driving was the number one occupation for men in 1996.
- Truck drivers were three years older, on average, than employees in other occupations. About 13% were over the age of 54 in 1998, compared with less than 10% of workers in other occupations.
- About one in 5 employee truck drivers usually worked 60 hours or more per week (often on an irregular schedule), compared with only one in 50 employees in other industries.
- Only one in 4 truck drivers had completed some form of postsecondary training. In spite of this, those who worked long hours were able to earn incomes comparable to those in occupations requiring more education. Average weekly earnings for all truck drivers in 1998 totalled \$673, slightly higher than those of full-time employees overall (\$666). A driver working 60 or more hours in a typical week earned \$854.
- Self-employment among truck drivers is an important and growing component of the trucking industry. In 1998, about 50,000 Canadians were classified as self-employed independent truckers or "owner-operators." Over a 12-year period, the ratio of paid truck drivers to self-employed owner-operators narrowed from almost seven to one (1987) to less than four to one (1998).

■ Women's earnings/men's earnings

... p. 20

- In 1997, the widely used female-to-male earnings ratio produced by the Survey of Consumer Finances (SCF) for all full-year full-time workers was 72.5%. This was ten percentage points less than a new ratio based on the Labour Force Survey (LFS) (82.3%).
- Several conceptual differences exist between the two measures. The SCF measure covers all workers, including the self-employed. That of the LFS refers strictly to employees. As well, the definition of earnings is broader in the SCF.
- After adjustments, the 1997 SCF ratio is much closer to that of the LFS, rising from 72.5% to 79.3%. Though they appear to be far apart, the ratios produced by these two sources ultimately prove similar when conceptual differences are taken into account.

■ Earnings of physicians

... p. 27

- Compared with 14% of all earners aged 25 and over in 1995, nearly two-thirds of physicians were self-employed. On the whole, self-employed workers earned 2% less than paid workers; physicians with their own practice earned 46% more than those working for others.
- At \$105,200, physicians earned 244% more than the overall average of \$30,600 in 1995 and 143% more than workers with a university degree in a discipline other than medicine. Their longer work hours accounted for about 17% of the difference between their average earnings and the overall average.
- Over half of all workers aged 25 and over earned less than \$30,000, and less than 2% earned \$100,000 or more. Comparable proportions for physicians were 13% and 46%.

- A little over one-third of all physicians were specialists. Their average earnings (\$116,500) were 18% higher than those of general practitioners and family physicians (\$98,700).
- Between 1980 and 1995, overall real average earnings fell 4%. Men lost 7%, while women gained 15%. In the case of physicians, men and women gained 1% and 19%, respectively. However, because of the extraordinary growth in the number of young female physicians with lower earnings, average earnings of physicians declined by 2%.

■ Exports, GDP and jobs

... p. 39

- Nominal exports as a proportion of Canada's GDP soared from 25% in 1991 to 38% in 1995. Over one-third of the increase in exports' share of GDP in the early 1990s reflects the rising import content in exports. The adjusted, value-added contribution of exports rose from 19% to 26% over the same period.
- The increase in import content has been strongest where export growth has been strongest—machinery and equipment, and electronic equipment. These exports, with about 50% import content, accounted for 10% of all exports in 1995, compared with 7% in 1986.
- The importance of trade to the economy does not come from an excess of exports over imports; rather, it comes from the productivity gains that accrue from specialization. Because of its high capital intensity, the export sector's output per employee is higher than that of the rest of the economy and its contribution to overall employment is less. (In 1995, 21% of jobs, versus 26% of output, were dependent on exports.)

■ What's new?

... p. 42

■ Upcoming release

Survey of Household Spending (Public use microdata file)

■ Just released

Manufacturing Industries of Canada: National and Provincial Areas, 1997

Government Expenditures on Culture Survey

The Statistical Report on the Health of Canadians, 1999

A Portrait of Seniors in Canada

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Insights on...

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Characteristics of Dual-earner Families in 1997

The Survey of Labour and Income Dynamics, 1993-1997

Family Food Expenditure in Canada

Survey of Household Spending (Standard data tables)

■ Upcoming Conference

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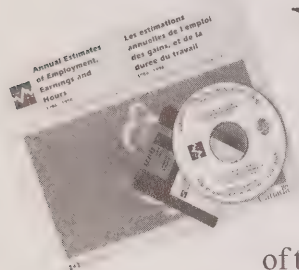
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Working together— self-employed couples

Katherine Marshall

A number of studies have explored the recent growth in self-employment, with specific attention to determinants, transitions, youths and women (Manser and Picot, 1999; Sawchuk and Whewell, 1998; Simpson and Sproule, 1998; Tompa et al., 1999). Rising self-employment may also be having an effect on families. As this article shows, in a growing number of families either one or both partners are self-employed. Also, the majority of dual self-employed couples are in business together, a fact that has been noted elsewhere: “The fastest growing segment of family-based business is couples in partnership, now called ‘copreneurship’” (Gardner, 1991).

The increase in the number of couples in business together is bound to change family dynamics. It can give couples more control over their work and schedules, which may make it easier to manage home and work obligations. However, income security and stability may be more at risk when couples choose to work for the same business. Quality of family life may also be affected by changes in family vacation time, longer work hours and varying schedules, less access to non-wage benefits such as dental plans or maternity/

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Data sources and definitions

The monthly Labour Force Survey (LFS) collects labour market information from all household members aged 15 and over, as well as demographic and family relationship information, making it possible to derive family types. Also, detailed information on what industry the respondent works in, and where he or she works (business name), makes it possible to determine whether two people work for or own the same business (see below).

The Survey of Consumer Finances, conducted each year in April or May as a supplement to the LFS, collects information about amounts and sources of income received in the previous calendar year.

Dual-earner couple: married or common-law couples who, at the time of the survey, were both working either full time or part time at a job or business. The spouses' class of work status (paid work or self-employment) was based on their main job.

Self-employed couples in the same business: husbands and wives who were both self-employed at their main job, and whose business had the same three-digit industry code and business

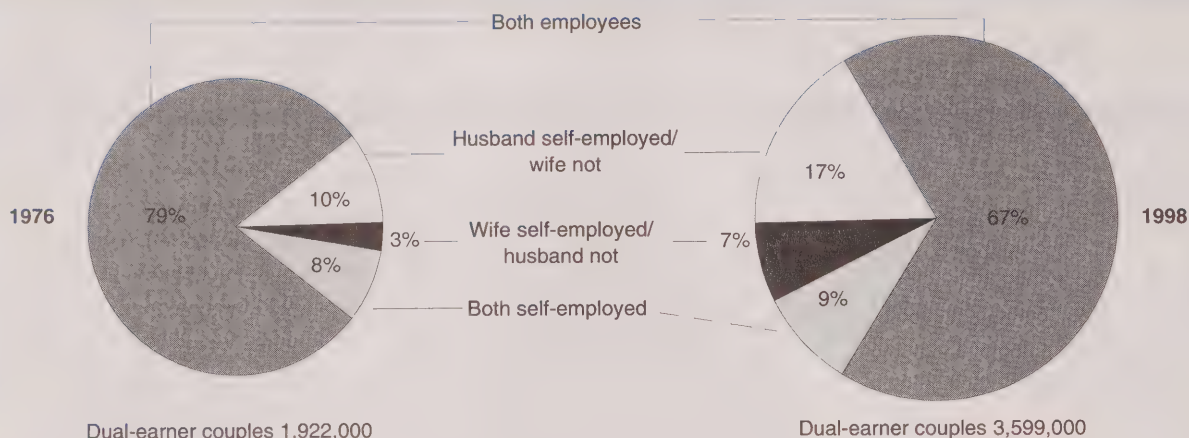
name (that is, with the first 10 characters matching). Husbands and wives who were both medical practitioners—for example, physicians or chiropractors—were not considered to be working for the same business. (Clients and funding are usually independent for such persons.) Other dual-professional couples, such as accountants or lawyers, were considered to own the same business only if they reported working for the same firm or company name.

Special note on the file creation: in order to make the file as complete as possible, substantial manual checking was done. For example, because business names must be spelled the same before a computer match is made, business names that matched on only the first three letters and had matching industry codes, were manually assessed and coded appropriately. Furthermore, records that matched at the 10-character level for name of business, but did not match at the industry level, were also manually assessed. Finally, given the extent of the manual intervention required, only a 1998 data file of same-business couples was created.

parental leaves, and perhaps increased stress from blending personal relationships with business partnerships.

This article examines the incidence of self-employment among dual-earner couples and compares

their characteristics with those of couples who have paid jobs. It also looks at the jobs and businesses of self-employed couples who co-own a business (see *Data sources and definitions*). The effects of self-employment on family dynamics are not explored in this study.

Chart A: One in three dual-earner couples had at least one self-employed spouse in 1998.

Source: Labour Force Survey

One-third of couples touched by self-employment

Self-employment doubled between 1976 and 1998 from 1.2 million to 2.5 million persons or 18% of all employment (up from 12%). This growth changed the proportion of self-employment among couples as well.

In 1976, at least one spouse was self-employed in 21% of all dual-earner couples, but by 1998 that proportion had risen to 33% (Chart A). In 50% (589,000) of the 1.2 million dual-earner couples who had at least one spouse self-employed in 1998 the husband was self-employed while the wife had a paid job; in 22% (254,000) the wife was self-employed and the husband was an employee; and in 28% (334,000) both spouses were self-employed. Furthermore, of those dual self-employed couples, a full 227,000, or 68%, were running the same business together (Table 1).

Most self-employed spouses have varying work hours

Generally, many of the differences between employee and self-employed couples are consistent with findings for individuals in paid work or self-employment. For example, husbands and wives who were both employees in 1998 were on average younger (41 and 39, respectively) than those who were self-employed (48 and 45). Employee couples were also more likely to be city dwellers: 86%, compared with 63% for dual self-employed couples. Although farming couples contributed to this finding (only 14% lived in an urban area), urban living among other types of self-employed couples was still less common than among couples with paid work (76%). Couples in rural areas or small towns may be more inclined to consider self-employment because of the relative scarcity of paid jobs or because of lower start-up costs in some businesses.

Wives in both employee and self-employed couples worked an average 34 hours per week; in contrast, husbands worked 40 and 51 hours, respectively. Multiple jobholding was higher among the self-employed than among employee couples, as was the rate of part-time work. For example, among employee couples, 23% of wives and 3% of husbands worked part time, but among dual self-employed couples 38% and 9% did so.

Not surprisingly, given that flexibility is often a key attraction to self-employment, the work schedules of employee couples and self-employed couples differed considerably in 1998. Only 2 out of 10 spouses with paid jobs had varying work hours, compared with more than 6 out of 10 self-employed spouses. Finally, with combined earnings of \$38,800, self-employed couples had lower median earnings than did employee couples (\$64,000).¹

Table 1: Dual-earner couples by selected characteristics

	Total couples	Both employees	Dual-earner couples					
			One spouse self-employed			Both spouses self-employed		
			Total	Husband	Wife	Total	Same business	
							No	Yes
			'000					
Total	3,599	2,422	843	589	254	334	106	227
Personal characteristics								
Average age								
Husband	42	41	44	44	42	48	46	49
Wife	40	39	41	42	40	45	43	46
			%					
Live in urban area*	82	86	78	77	81	63	77	57
Job characteristics								
Average weekly hours								
Husband	43	40	46	48	41	51	47	53
Wife	33	34	32	32	33	34	34	35
			%					
Multiple jobholder								
Husband	5	4	7	5	10	6	8	6
Wife	5	4	7	7	7	7	10	6
Works part time								
Husband	4	3	6	8	3	9	10	8
Wife	27	23	32	30	39	38	38	38
Unpaid family worker								
Husband	--	-	--	--	-	1	--	1
Wife	1	-	--	-	1	10	--	14
Work hours vary								
Husband	31	18	54	69	21	67	69	66
Wife	29	21	36	25	63	63	64	63
			\$					
Median earnings**								
Husband	38,000	40,000	34,500	29,100	42,000	25,000	...	...
Wife	22,100	24,000	20,000	24,000	9,700	13,800	...	...

Sources: 1998 Labour Force Survey; 1997 Survey of Consumer Finances

* Population concentration of 1,000 or more and a population density of 400 or more per square kilometre.

** Variable from the SCF; represents before-tax earnings in 1997.

Four in ten co-owners in farming or retail

Of the 227,000 couples (nearly half a million people) who co-owned and ran a business together in 1998, 28% (63,000) were in agriculture

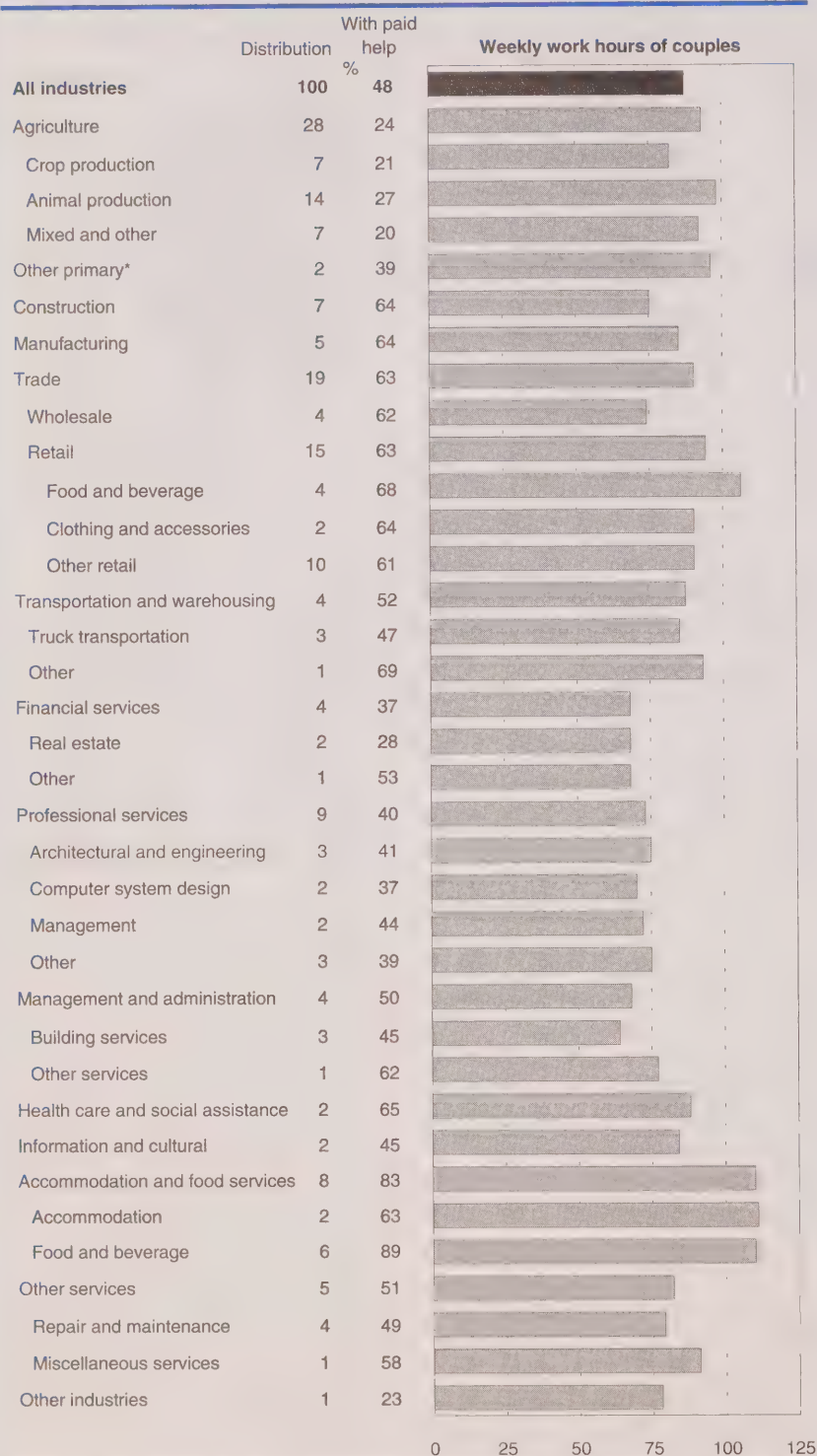
(Chart B). Half of these farms or ranches were involved primarily in raising livestock. Another 15% (35,000) of co-owning couples had retail businesses, including non-store businesses selling goods door-

to-door or through catalogues or the Internet, among other means. About one in 4 family farms hired employees, whereas 6 in 10 family retail businesses had hired help.

Another 17% (39,000) of co-owned businesses were more or less equally divided between professional, scientific and technical services (20,000) (a sector providing knowledge, skills and expertise to professional communities), and accommodation and food services industries (19,000). Compared with 40% of businesses in the professional, scientific and technical services industry, more than 80% of those in accommodation and food services hired employees, possibly because these businesses are more difficult to manage with only one or two people.

Owning a business takes time

Dual-earner couples with paid jobs averaged 74 hours of combined weekly work in 1998; in contrast, couples who co-owned a business averaged 87 hours (Chart B). The type of business appears to have influenced the length of the work week. Establishments providing goods or services outside usual business hours, such as hotels, motels, restaurants or food stores, required around 110 hours per week. Farm couples, especially those with livestock, also worked above-average weekly hours (98). Couples who owned businesses associated with the business community, such as those in finance, insurance, professional services or administration, together clocked around 60 to 70 hours per week, work hours similar to those of employees.

Chart B: Co-owner couples in food, beverage or accommodation industries work well over 100 hours per week.

Source: Labour Force Survey, 1998

* Forestry, fishing, mining, oil and gas

Most spouses have same job within their business

Three of the four most common occupations reported by husbands and wives in a co-owned business were the same—that is, agricultural, managerial, or sales and service jobs (67% of husbands and 60% of wives) (Table 2). Other common occupations were financial, secretarial, administrative or clerical (22% of wives) and trades, transportation and equipment operating (14% of husbands).

Couples may have owned a business together, but not necessarily have had the same job or responsibilities—although most did. In 24% of couples surveyed in 1998, both spouses reported having an occupation in agriculture, and in another 13% both had management jobs in retail. This reflects the industry profile of co-owner couples, as noted earlier. The next two most common shared occupations were in sales and service (7%), and trades, transportation and equipment operating (5%). In another 17% of couples, husbands were in trades, transportation and equipment operating; management; agriculture; or sales and service, and wives worked in financial, secretarial, administrative or clerical occupations. These couples' duties were most likely divided between service provision and office management.

Summary

In 1998, some 33% (1.2 million) of all dual-earner couples reported at least one spouse who was self-employed. A substantial number of this group (227,000) included couples who were running a business together. Although one-quarter of these couples were

Table 2: Occupational distribution of husbands and wives who co-own businesses

	%
Top jobs for husbands	100
Occupations unique to agriculture	28
Managerial	27
Trades, transportation and equipment operating	14
Sales and service	12
Other	19
Top jobs for wives	100
Occupations unique to agriculture	25
Financial, secretarial, administrative or clerical	22
Managerial	21
Sales and service	14
Other	19
Top combinations in co-owned businesses	100
Both have occupations in agriculture	24
Both are retail managers	13
Both have occupations in sales and service	7
Both have occupations in trades, transportation and equipment operating	5
Husband in trades, transportation and equipment operating	7
Wife in financial, secretarial, administrative or clerical occupation	
Husband in management	5
Wife in financial, secretarial, administrative or clerical occupation	
Husband in management	5
Wife in sales and service	
Husband in agriculture	3
Wife in financial, secretarial, administrative or clerical occupation	
Husband in sales and service	2
Wife in financial, secretarial, administrative or clerical occupation	
Other combinations	29

Source: Labour Force Survey, 1998

co-owners of a farm or ranch, the others had businesses in a wide range of industries. Most husbands and wives who ran a business together had varying work schedules, and their combined work week averaged 87 hours. No matter what their work pattern, these couples faced the challenge of blending work and family partnerships.

Perspectives

Acknowledgement

The author wishes to thank Mary McAuley for her considerable effort in creating a custom file of self-employed couples who co-own a business.

Note

1 The lower average annual earnings of farm couples (\$25,000) do bring down the overall average earnings for all self-employed couples, but not substantially. Average earnings for non-farm self-employed couples were \$44,000.

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Work patterns of truck drivers

Irwin Bess

The trucking industry is an important component of the Canadian economy and the national transportation system, linking producers and wholesalers of goods to domestic and international markets. About two-thirds of the value of all trade to and from the United States moves over the road, including commodities ranging from automotive parts, machinery and forestry products to food, beverages and clothing. Between 1990 and 1998, when the economy was growing at a rate of about 2% per year, output in the trucking industry increased at an average annual rate of 5%—far greater than that of the airline (1%) and railway transport industries (1%), and in contrast to the 1% decline in the marine industry. With the increasing emphasis on just-in-time delivery at competitive prices, demand for truckers has grown. By 1998, about 230,000 Canadians, or 2% of the entire labour force, were employed as drivers of commercial transport trucks. This reflected an increase of 13% since 1989 (compared with a 9% overall employment growth).

Using data from the Labour Force Survey (LFS), the Survey of Work Arrangements, the Quarterly Motor Carriers of Freight Survey,

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Chart A: Truck driving was the most common occupation among men in 1996.

Experienced labour force*, men



Source: Census of Canada, 1996

* Aged 15 or over, employed or unemployed, and who worked in 1995 or 1996.

and the Survey of Small For-hire Carriers and Owner Operators, this article compares the work arrangements of truck drivers with those of workers in other occupations and industries (see *Data sources and definitions*). Unless otherwise noted, the analysis refers to both employees and self-employed workers (see *Self-employment a major component of for-hire truck driving*). It includes trends in hours worked, earnings and various socio-economic characteristics of workers in this growing occupation.

More men and older workers in trucking

Despite the inroads made by women into many non-traditional occupations and the increasing demand for trucking services, very few women drive transport trucks (Hughes, 1990). On the other hand, "truck driver" was the number one occupation for men in 1996 (Chart A).

Truck driving also employed proportionately more workers over age 55 than did other occupation.

Table: Socio-economic characteristics of truck drivers

	All occupations	Truck drivers		
		Total	For-hire	Private
Total	14,326	231	128	103
		'000		
		%		
Province	100.0	100.0	100.0	100.0
Newfoundland	1.4	1.1	--	--
Prince Edward Island	0.4	0.5	--	--
Nova Scotia	2.8	3.0	2.7	3.3
New Brunswick	2.3	3.6	3.6	3.5
Quebec	23.2	23.4	21.0	26.3
Ontario	39.2	38.0	39.3	36.3
Manitoba	3.8	4.1	4.6	3.5
Saskatchewan	3.3	3.3	3.7	2.8
Alberta	10.6	12.2	13.3	10.7
British Columbia	13.0	10.9	10.5	11.4
Age	100.0	100.0	100.0	100.0
15 to 24	14.7	7.0	5.1	9.4
25 to 54	75.4	80.4	81.5	79.1
25 to 34	24.9	25.5	26.6	24.0
35 to 44	28.9	31.8	32.3	31.2
45 to 54	21.6	23.2	22.6	24.0
55 and over	9.9	12.6	13.4	11.5
Both sexes	100.0	100.0	100.0	100.0
Men	54.5	97.2	97.1	97.3
Women	45.5	2.8	2.9	2.7
Education	100.0	100.0	100.0	100.0
Less than postsecondary certificate, diploma or degree	47.7	73.1	72.2	74.2
Postsecondary certificate or diploma	33.3	25.0	25.9	24.0
University degree	19.0	1.9	--	--
Economic family size	100.0	100.0	100.0	100.0
One person	15.0	13.6	13.0	14.4
Two people	25.5	26.4	28.1	24.3
Three people	20.7	22.0	21.6	22.5
Four or more people	38.9	38.0	37.3	38.8
Number of children	100.0	100.0	100.0	100.0
No children under 18	63.0	60.1	59.5	60.8
With children under 18	37.0	39.9	40.5	39.2
One child	15.1	15.6	15.0	16.3
Two children	15.8	17.8	18.0	17.6
Three or more	6.1	6.5	7.5	5.4

Source: Labour Force Survey, 1998

the road (CTHRC, 1998). However, if recent trends are any indication, their replacements will probably be older than 24. The "for-hire" segment of the trucking industry, composed of firms whose principal business is transportation of goods for a fee, were especially unlikely to be employing young people in 1998 (Table). Only 5% of for-hire drivers were under age 25, compared with 9% of drivers employed in private trucking (companies that transport their freight by truck, but whose principal business activity is not trucking) and 15% of Canadians in other occupations. This may reflect the minimum age for truck drivers in the United States (21), as well as the demand for practical experience and specialized training to haul certain products, liquids or chemicals (EIC, 1990; CTHRC, 1998).

Truck drivers' place of residence mirrored that of the 1998 labour force in general: about 38% lived in Ontario, 23% in Quebec, 12% in Alberta and 11% in British Columbia. The Atlantic region (8%), Manitoba (4%) and Saskatchewan (3%) were home to a smaller proportion of drivers.

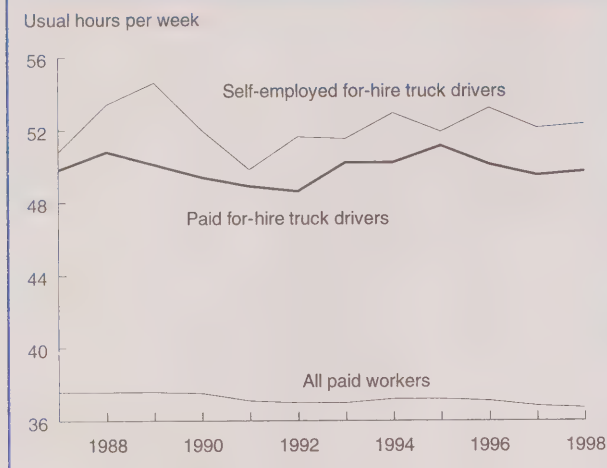
Many drivers working long hours

For many Canadians, the lure of truck driving is often its promise of independence, its above-average earnings and the opportunity to travel to a variety of domestic or international destinations. However, the highly competitive nature of the trucking industry often demands nearly around-the-clock operation of vehicles and equipment (Binkley, 1998). The job may require that a driver complete multiple cross-town trips in several

pations, and fewer under the age of 25. According to the LFS, about 13% of all truck drivers were over 54 in 1998, compared with less than 10% of workers in other occupations. Overall, truck drivers were

about three years older than workers in other occupations. Some studies have predicted that many of these people will have retired by the year 2005, or at least have restricted the amount of time they spend on

Chart B: For-hire drivers have averaged over 50 hours per week since 1991.



Source: Labour Force Survey

hours, for example, or a round trip between Toronto and Montréal in a day, or a journey from Vancouver to Winnipeg in three days. Truck drivers also often spend a good part of each day completing a number of non-driving activities, such as loading and unloading freight, clearing customs and border crossings (Johnson, 1999), and performing administrative duties. As a result, few drivers (5%) were employed on a part-time basis in 1998, or worked less than 35 hours per week. Rather, they appeared to have joined the growing ranks of workers at the other end of the spectrum (Chart B) (Sheridan, Sunter and Diverty, 1996). According to the LFS, 20% of paid truck drivers were usually on duty 60 hours or more per week, compared with only 2% of employees in other industries. (In fact, paid truck drivers accounted for about 15% of the 244,000 employees who typically worked over 60 hours per week.)¹

For-hire² truck drivers tended to log more time on the road than drivers employed in private trucking. More than one-half (52%) of paid for-hire drivers usually worked 50 or more hours per week and about one-third (31%) worked 60 or more hours in 1998 (Chart C). In comparison, only 22% of drivers working for private carriers typically worked 50 hours or more and only 11% put in more than 60 hours each week. For-hire drivers were also highly likely to work for companies that engaged in long-distance³ trucking or derived most of their revenues from trips to and

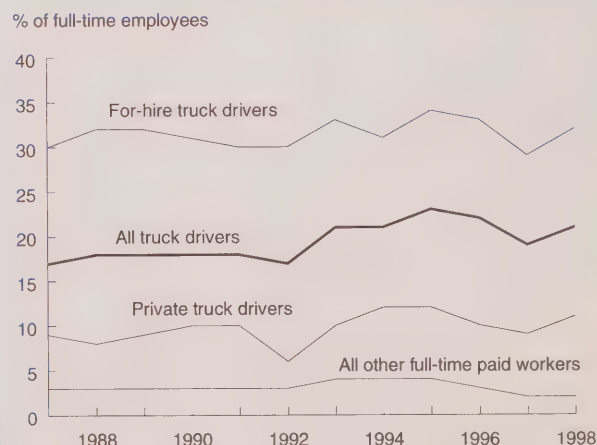
from the United States. Data from the Quarterly Motor Carriers of Freight Survey indicate that in 1998 over two-thirds of for-hire truck drivers (69%) worked for long-distance trucking companies, and about one-quarter (26%) were employed by firms that received over one-half of their revenues from service between Canada and the United States.

Long hours mean higher earnings for many drivers

A number of studies have noted a growing demand for highly trained workers and a related decline of earnings among those with less than high school education or little formal postsecondary training (Stafford, 1999). Truck drivers, relatively few of whom held college diplomas or postsecondary degrees in 1998⁴ (Table), posted hourly wages substantially lower than those of workers in occupations demanding higher levels of training. Although for-hire drivers earned slightly more than clerical, construction or transportation workers at \$13.94 per hour, they earned 7% less than manufacturing machine operators or assemblers, for example, and just over one-half (56%) the average wages earned by workers in natural and applied science occupations.⁵

What drivers lacked in hourly wage rates, they compensated with longer hours. On a weekly basis, average earnings for full-time truck drivers totalled \$673

Chart C: About one-third of for-hire drivers work 60 or more hours per week.



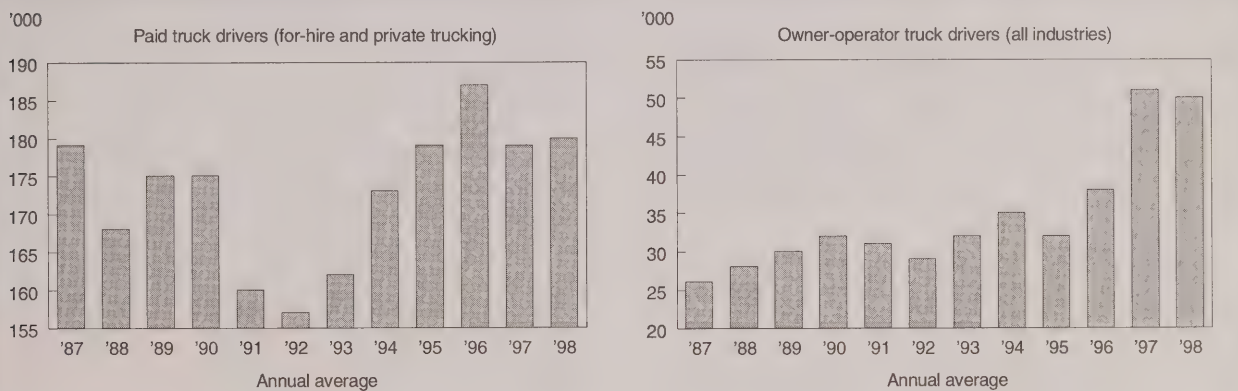
Source: Labour Force Survey

Self-employment a major component of for-hire truck driving

According to the Survey of Small For-hire Carriers and Owner Operators, the majority (76%) of self-employed or owner-operator drivers worked in "for-hire" trucking in 1996, and have emerged as an important and growing component of the trucking industry (Statistics Canada, 1999). Labour Force Survey data show that over a 12-year period (1987 to 1998), the ratio of paid truck drivers to self-employed owner-operators narrowed from almost seven to one to less than four to one. In 1998, about 50,000 Canadians were owner-operators, receiving over \$3.5 bil-

lion in payments from trucking companies. Use of owner-operators offers flexibility for trucking firms hoping to increase revenues without increasing permanent payrolls and capital investments (McKeown and Rea, 1996).

According to the 1995 Survey of Work Arrangements, about 39% of owner-operators chose to run their own trucking business for the sake of greater independence. These drivers may have found it necessary to work long weeks in order to cover fuel, maintenance, insurance and rental or leasing expenses.



Source: Labour Force Survey

in 1998, slightly higher than those of full-time employees generally (\$666). A driver working 60 or more hours in a typical week earned \$854 (or \$44,400 a year—assuming year-round work).⁶ Among unionized truck drivers putting in long hours, weekly earnings averaged \$898 (\$46,700 per year). Overall, the average weekly earnings of contractors and supervisors in trades and transportation were \$837; of workers in natural and applied sciences, \$842; and of those in management occupations, \$871.

Truck drivers less likely to be in dual-earner families

Although many paid and self-employed drivers work alone or

spend most of their time away from their office or terminus, only one in 10 was living alone in 1998. The majority (72%) lived with a marital or common-law partner and about 4 in 10 had at least one son or daughter under the age of 18 living at home. In contrast to the majority of couples in other occupations, the spouses of truck drivers were less likely to be working outside the home (Marshall, 1994). Less than one-half of drivers (42%) had a spouse doing paid work, compared with 8 out of 10 (79%) attached workers in other occupations. This situation could explain drivers' willingness to take on longer routes or work weeks as a way of supporting their families, or perhaps it reflects the challenges of

reconciling a trucker's schedule with the demands of a dual-earner household.

Balancing work with family time may be especially challenging for long-haul drivers in the for-hire industry, who may not see their families for days or, in some cases, for several weeks (Cancilla, 1999). According to the 1995 Survey of Work Arrangements, only 40% of paid for-hire drivers had a regular daytime schedule, compared with 71% of drivers in other industries and 68% of paid workers in other occupations. Rather than work a regular daytime shift, about 42% of for-hire drivers mixed daytime, evening and late night work. For one in five for-hire drivers, the nature of the job also meant

Data sources and definitions

This study uses data from the Labour Force Survey (LFS), the 1995 Survey of Work Arrangements (SWA), the Quarterly Motor Carriers of Freight Survey (QMCFS), and the Survey of Small For-hire Carriers and Owner Operators. Unless otherwise noted, the occupation considered here is truck driver (code H711), defined in the 1991 Standard Occupational Classification (SOC 1991), and excludes delivery drivers, fire-fighters, snowplows, road oilers, and waste and public works maintenance equipment operators. Persons employed in this occupation are primarily concerned with transporting goods and materials over urban, interurban, provincial or international routes.

The LFS is a monthly household survey of a sample of about 53,000 households representative of the civilian, non-institutionalized population 15 years or older in the 10 provinces. Excluded are residents of the Yukon, Northwest Territories and Nunavut, as well as persons living on Indian reserves, full-time members of the Canadian Armed Forces and inmates of institutions.

The SWA, sponsored by Human Resources Development Canada, was conducted as a supplement to the November 1995 LFS. A household sample survey, the SWA collected data on the work schedules and hours of paid and self-employed workers. The analysis is based on a sample of 239 respondents representing about 77,500 employed drivers in the for-hire trucking industry. Comparisons with employed drivers in other industries were based on a sample of 207 respondents representing 87,500 drivers outside the for-hire industry.

The QMCFS collects operating and financial data through a sample of for-hire trucking companies excluding self-employed owner-operators. The survey sampled between 713 and 756 companies with \$1 million or more in annual operating revenues during each quarter of 1998, representing approximately 2,300 companies.

Smaller companies are covered in the Survey of Small For-hire Carriers and Owner Operators, which collected operating and financial data from 8,664 companies with annual revenues between \$30,000 and \$1 million (1996).

Definitions

The trucking industry can be divided into two major components: for-hire trucking and private trucking. **For-hire trucking** companies carry freight for a fee to domestic and/or international markets. **Private trucking** refers to companies that maintain a fleet of trucks and trailers and employ drivers to haul and distribute their freight, but whose principal business is not trucking. Companies with private trucking operations tend to be retail distributors of consumer goods, chemical product producers, pulp and paper companies, beverage distributors, or wholesale distributors of agricultural products. Truck drivers working for couriers and postal service companies are classified as private truckers in this study.

Owner-operators are self-employed truck drivers who work under contract for either for-hire trucking companies or companies engaged in private trucking. They typically use their own road tractors and trailers.

working most Saturdays. At the extreme, about 10% typically logged seven-day work weeks. Studies conducted for Transport Canada suggest that work-related factors, such as the regularity of a driver's schedule and the time of day, as opposed to just the number of hours on duty, can influence driver alertness and overall driving performance (Transport Canada, 1997; Binkley, 1998).

Despite the long hours and potential tensions between work and personal commitments, most paid drivers seemed willing to meet the demands of their jobs in exchange for higher earnings.

While 55% of drivers who usually worked 50 hours or more per week in November 1995⁷ said they had little control or choice in the schedules they worked, some 64% said they would work the same hours if given the choice. And about 22% of drivers working such hours wanted to work more hours for more pay. Only 13% of drivers working long hours would have preferred fewer hours for less pay.

Summary

About 230,000 Canadians listed their occupation as truck driver in 1998. Workers with little or no

postsecondary education but who are willing and able to work long hours can earn incomes comparable to those of occupations requiring more education. Although many drivers would prefer to continue working long hours on an irregular schedule in exchange for higher earnings, they would lose time for family, friends and personal interests. As more and more experienced drivers approach retirement age and fewer Canadians opt to work long hours, finding suitable skilled workers may prove challenging for the trucking industry.

■ Notes

- 1 From 1976 to 1996, usual hours referred to hours worked in a typical week, regardless of whether they were paid or unpaid. Conceptual changes to "usual hours of work" for employees were phased in gradually from September 1996 to January 1997 with the redesign of the Labour Force Survey questionnaire. The new concept redefines usual hours as normal paid or contract hours, not counting any overtime. These changes may have introduced a slight downward shift in estimates of usual hours for paid workers.
- 2 The for-hire trucking industry is not a single industry, but a combination of smaller segments such as home and office moving, and highway transportation of dry materials, liquid chemicals, and forestry products. Drivers account for over half (61%) of all workers in for-hire trucking and most (68%) work for medium or large companies with annual revenues exceeding \$1 million.
- 3 According to the North American Industry Classification System, long-distance trucking refers to the truck transportation of general or specialized freight between metropolitan areas.
- 4 Although a number of studies point to increased demand for drivers with a broad range of skills and education, on-the-job training still appears to be a common feature of the occupation. While most drivers go through some form of driver training to obtain their commercial vehicle licence, only 26% of for-hire drivers and 24% of those working for private carriers in 1998 had obtained a postsecondary certificate, diploma or university degree. Even among the one in five drivers self-employed (owner-operators) and running a trucking business, only one in four had completed a postsecondary certificate, diploma or degree.
- 5 Earnings are for employees only.
- 6 Estimates of annual earnings are based on average weekly earnings from the Labour Force Survey and assume that the person worked or was paid each week over a 52-week period in 1998.
- 7 November is the reference period of the 1995 Survey of Work Arrangements.

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Women's earnings/ men's earnings

Diane Galarneau and Louise Earl

Since women began making their presence felt in the labour market and in institutes of higher learning, their earnings have been compared with men's. For this reason, Statistics Canada publishes considerable data on the subject. The Survey of Consumer Finances (SCF), which estimates the annual income of individuals and families, is the source most often used to measure the female-to-male earnings differential (see *Data sources*). Since 1997, the Labour Force Survey (LFS) has also been used to compare the incomes of women and men, on a monthly basis.

This article aims to familiarize readers with this new LFS-based measure of relative earnings, and to compare it with the one produced by the SCF. It also explains the reasons for the sizable gap between the two measures. In 1997, the female-to-male earnings ratio produced by the SCF was 72.5%; that of the LFS was 82.3%. (See Appendix 1 for a discussion of data quality.)

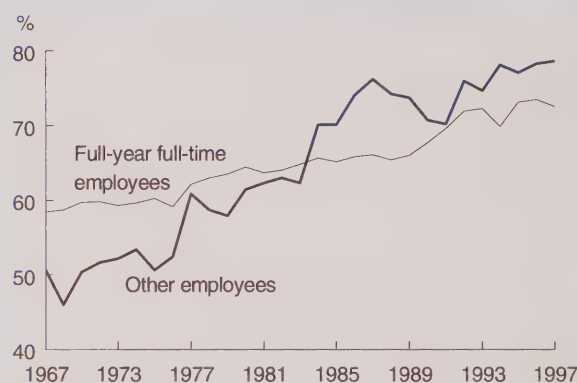
Ratios derived from the SCF

Since 1951, the SCF has been collecting information on the annual incomes of individuals and families by source. Since 1967, these data have been published by sex, making it possible to compare the earnings of men and women. Earnings comprise wages and salaries and net income from self-employment. Two main earnings ratios produced by the SCF are commonly used; one covers all persons earning employment income (whatever their work pattern), and the other, those working full time for the whole year.

The first ratio covers persons who worked for pay from as little as one to as many as 52 weeks a year, for at least one hour a week. Annual earnings can, there-

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Chart: Female-to-male earnings ratios have increased steadily for 30 years.



Source: Survey of Consumer Finances

Note: The years between 1967 and 1973 are 1969, 1971 and 1972.

fore, vary greatly from one worker to another, mainly because of differences in work volume.

In order to take into account these differences, the SCF also provides an earnings ratio that covers only *persons working full year full time* (that is, those working 49 to 52 weeks during the year, "mostly"¹ 30 hours or more per week). Individuals in this group are more homogeneous since they are less likely to vary their work schedule during the year.

A ratio for "other" workers² (full- or part-time for part of the year or part-time for the full year) is also available, though, as is the case with the first ratio, the annual amount of work performed varies greatly from one person to the next. It may also vary for the same person over the year. The comparison of earnings for this group, then, refers to a wide range of work schedules and annual hours of work.³ Consequently, the ratio for this group tends to zigzag over time (Chart).

This last ratio, then, provides little information on the earnings differential between women and men, since it does not take into account work volume. The same is true for the ratio for all workers, since it includes "other" workers.

The most meaningful ratio, then, is that concerning full-year full-time workers. This increased from 58.4% in 1967 to 72.5% in 1997.

The LFS ratio

Since 1997, the LFS has included questions on the usual wages and salaries of employees in their main job.⁴ This does not include overtime pay or wages received for one or more secondary jobs, paid or self-employed.⁵ This new information is used to calculate female-to-male wage ratios on a monthly or annual basis. In this article, ratios from the LFS are based on *hourly* wages. The 1997 female-to-male ratio for average hourly wages of all employees stood at 82.3%. This was ten percentage points greater than the SCF ratio for full-year full-time workers, a sizable gap.

Ratios differ according to source

Several factors may explain such a gap. First, the populations covered are different. The SCF ratio refers to both employees and self-employed workers, while the LFS ratio considers only employees.

The definition of earnings is broader in the SCF. In addition to wages from the main paid job, the SCF includes earnings from one or more secondary jobs (paid or self-employed), paid overtime, and increases provided for in the contract of employment.⁶ The LFS includes only wages and salaries from the main paid job.

Furthermore, the two surveys calculate earnings on a different basis. The SCF produces ratios based on annual earnings, while the LFS uses hourly earnings.

As noted earlier, in order to take into account the volume of work, the most-used ratio from the SCF is that for full-year full-time workers only. It therefore excludes from the comparison other workers. By contrast, the LFS measure covers all employees, whatever their work pattern (see *Effect of part-time workers*). This ratio is therefore fully adjusted for hours of work.⁷

In the following exercise, a reconciliation of the two rates is attempted by means of two adjustments to the SCF ratio. First, it will exclude self-employed workers

from the SCF universe; then it will convert annual earnings to hourly wages.⁸

Adjustments

Comparable populations

The exclusion⁹ of self-employed workers from the SCF has a marginal effect on the 1997 ratio, which drops from 72.5% to 72.2% when only full-year full-time workers are considered (Table 1).

Table 1: Reconciliation of SCF and LFS female-to-male earnings ratios

	Ratio
	%
SCF ratios (1997 earnings)	
Published ratio	72.5
Adjusted for covered populations	72.2
Adjusted for work volume (full-year full-time workers)	78.8
Adjusted for work volume (all workers)	79.3
1997 LFS ratio	
Hourly earnings of all employees (full- and part-time)	82.3

Sources: Survey of Consumer Finances and Labour Force Survey

Adjustment for amount of work

The most important adjustment to consider in comparing earnings is the one related to volume of work. However, because the SCF does not collect information on weekly or monthly hours, it cannot determine precisely a person's annual hours.

For this reason, the usual practice is to consider only full-year full-time workers. However, this adjustment is only partial, since, on average, women working full time work fewer hours than men (39.5 hours versus men's 43.8 in 1997). Over the course of a year, this difference can amount to as much as six weeks of work.

A more precise adjustment would be the conversion of annual earnings in the SCF to hourly wages.¹⁰ The SCF collects information on the number of *usual* weekly hours worked at the time of the survey.¹¹ For the sake of argument, this is assumed to correspond to the *average* weekly hours worked over a year. It is also assumed that persons working "mostly" 30 hours or more per week do so throughout the 49 to 52

Data sources

A number of data sources can be used to calculate the female-to-male earnings ratio. That most often used is the Survey of Consumer Finances (SCF). Comparable ratios are also available from the census and from Revenue Canada taxation data. But the census data are produced only every five years, while the Revenue Canada data provide no information concerning the amount of work.

The ratio produced by the Labour Force Survey has the advantage of being fully adjusted for the amount of work and of being available on a monthly basis, 21 days after the reference week for the survey.

The SCF was conducted for the last time in 1998, collecting data covering the 1997 reference year. As of the 1998 reference year, the Survey of Labour and

Income Dynamics (SLID) now gathers those data, along with longitudinal data on labour and income. SLID can produce an even more precise measure of volume of work, since work hours are known for a maximum of six jobs. Thus, it will be possible to produce not only the usual SCF ratios, but also ratios adjusted for the amount of work.

Data sources for calculating the female-to-male earnings ratio

Source	Frequency	Time lag	Adjustment for amount of work	Lastest year	Ratio for 1997
					%
SCF	Annual	20 months	Partial	1997	72.5*
LFS	Monthly	21 days	Total	1999	82.3**
SLID	Annual	15 months	Total	1997	81.0†
Census	Quinquennial	29 months	Partial	1995	70.9*
Revenue Canada	Annual	18 months	None	1997	62.3††

* Ratio for employment income of persons working full year full time.

** Ratio for employees' hourly wages.

† Ratio for average hourly earnings for all jobs and all employees.

†† Ratio for median employment income of all persons reporting earnings.

Effect of part-time workers

The LFS ratio shows that among part-time workers, women exceed wage parity with men (109.9%). The ratio for full-time employees is 83.2%. In light of this, why should including part-time workers lower the overall ratio (from 83.2% to 82.3%)?

In fact, when part-time employees are added to the overall ratio, the numerator decreases in relation to the numerator for the full-time ratio, because hourly earnings of women working part time are less than those of women working full time (\$12.14 versus \$14.73, and \$14.34 for all women). The denominator also decreases, since hourly earnings of men working part time are lower than those of men working full time (\$11.04 versus \$17.70, and \$17.43 for all men). But since a greater proportion of women than men hold part-time jobs (13.3% and 5.8% of all employees, respectively), the relative decrease in the numerator is greater than that in the denominator.

Average hourly earnings

	Hourly earnings	Proportion	Ratio
	\$	%	
All employees	16.10	100.0	82.3
Men	17.43	54.9	
Women	14.34	45.1	
Full-time	16.51	81.0	83.2
Men	17.70	49.1	
Women	14.73	31.9	
Part-time	11.84	19.0	109.9
Men	11.04	5.8	
Women	12.14	13.3	

Source : Labour Force Survey, 1997

Table 2: Female-to-male income ratios, SCF and LFS

	Annual income**	SCF		LFS
		Wages and salaries*		Hourly earnings
		Full-year full-time employees	All employees	All employees
		%		
All employees	72.5	78.8	79.3	82.3
Age				
15 to 24	80.8	88.9	95.3	89.8
25 to 34	76.3	83.4	85.0	88.4
35 to 44	73.4	79.8	79.2	82.0
45 to 54	69.8	75.6	74.6	76.5
55 and over	66.4	71.8	73.0	75.6
Marital status				
Single (never married)	91.8	99.0	99.9	93.7
Married or common-law	67.5	73.8	73.6	78.3
Other	80.3	85.7	85.0	82.4
Education				
Less than Grade 9	69.6	73.4	78.1	70.3
Some high school	64.6	69.8	71.8	74.5
High school graduation	73.0	79.6	79.8	81.3
Some postsecondary	75.0	78.2	80.0	82.6
Postsecondary certificate or diploma	70.6	77.3	78.6	80.9
University degree	73.6	80.4	80.1	84.0
Occupation				
Management and administration	65.5	72.2	71.8	77.5
Professional	73.0	80.9	81.5	85.2
Clerical	80.7	85.8	86.7	89.4
Sales	73.1	78.3	76.9	74.8
Service	64.8	70.0	74.9	72.2
Primary industry	60.8	64.2	64.7	67.9
Occupations unique to production	65.2	68.2	67.7	67.2
Construction	--	--	--	86.0
Transportation equipment operators	78.8	89.9	88.6	84.7
Labourers and other	61.0	62.1	65.0	71.0

Sources: Survey of Consumer Finances and Labour Force Survey, 1997

* Does not include self-employment income of paid workers who had a second job in which they were self-employed.

** Calculated for persons working full year full time.

or full time part of the year — must be added, so as to cover all employees.¹² The same adjustments can be made for this group of employees and a ratio calculated for all employees. The final ratio is therefore 79.3%, much closer to the LFS ratio. This similarity also holds for a number of socio-demographic characteristics (Table 2). (A detailed set of female-to-male earnings ratios for the 1998 LFS is provided in Appendix 3.)

Conclusion

This article has compared the new Labour Force Survey (LFS) measure of the female-to-male earnings differential with the widely used measure produced by the Survey of Consumer Finances (SCF). It has also explained the reasons for the sizable, ten percentage-point gap observed between those two ratios.

Several conceptual differences set the two measures apart. The SCF ratio covers all workers, both employees and the self-employed. The LFS measure covers only employees. The definition of earned income is broader in the SCF, since it includes not only earnings from one or more paid or self-employed jobs, but also paid overtime, and contractual wage increases. In the LFS, only the wages and salary of the main job are taken into account.

Even more important, the base used in the calculation of earned income is different: the SCF collects earnings on an annual basis, while the LFS provides hourly wages. The LFS ratios are therefore fully adjusted for volume of work, while the SCF ratios are only partially adjusted.

weeks (and not only for 26 weeks, the minimum for full-year full-time workers) (see note 2).

By dividing SCF annual wages and salaries by the number of weeks and weekly hours usually worked, one can convert annual earnings to an hourly wage. The

SCF ratio for full-year full-time employees then stands at 78.8% (Table 1).

In order to make the SCF ratio conceptually comparable with the LFS ratio, "other employees"—namely, those working part time part of the year, part time all year

In this article, the SCF ratio was adjusted to make it conceptually comparable with the LFS ratio. Making the opposite adjustment would have been practically impossible, since the LFS does not collect information on the number of weeks worked. The adjusted SCF ratio therefore covers only the wages and salaries of employees. A further adjustment converted annual incomes to hourly wages, to take volume of work into account.

Following these adjustments, the 1997 SCF ratio comes closer to that of the LFS (82.3%), changing from 72.5% to 79.3%. Of all the adjustments made, the one for volume of work has the greatest effect. The reconciliation achieved holds for a number of socio-demographic variables.

While they are apparently far apart, the ratios produced by these two sources ultimately prove similar when conceptual differences are taken into account. The remaining gap may be due to the survey methodologies.

Perspectives

■ Notes

1 "Mostly" means that a person worked 30 hours or more per week for at least 26 weeks during the year. The person could have worked less than 30 hours per week the rest of the year and still be considered full-year full-time.

2 Other workers may have worked "mostly" 29 hours or less per week for 49 to 52 weeks or less than 49 weeks during the year.

3 A variety of work schedules also exists for full-year full-time workers, since in order to be considered as such these people must have put in "mostly" 30 hours or more per week. However, this group usually has a major attach-

ment to the labour market and a fairly stable work schedule.

4 Wages and salaries also include before-tax tips, commission and bonuses. The main job is the one at which the employee worked the greatest number of hours during the LFS reference week.

5 The LFS does not question self-employed workers on their wages and salaries, because it is impossible for them to supply such information. Conceptually, the earnings of self-employed workers should correspond to net income, that is, income minus expenses. However, the incomes and expenses of self-employed workers are not necessarily linked to current hours of work (equipment, for example, will have been paid for prior to its use). Self-employed workers, may, however, report their net income for the calendar year. Since the SCF and the Census of Population are based on annual incomes, those surveys can cover both employees and self-employed workers.

6 Questions regarding wages and salaries are usually asked only in the first interview (of six). However, if the respondent changes employer or tasks, the interviewer asks these questions again. But if an employee moves to a new level, or if his or her wages rise, such increases are not immediately reflected in the data. They eventually appear with sample rotations.

7 Other factors, such as sampling and non-sampling errors, may also help to explain the sizable gap between the SCF and LFS ratios. One such factor is the SCF's smaller sample size (two-thirds of the LFS sample) and the different reference period (the SCF refers to the year preceding the survey, while the LFS refers to one week). Furthermore, the SCF asks respondents to recall their labour market activities over the past year, while the LFS refers to the past week. Recall problems may therefore be more common in the SCF.

8 The LFS ratio cannot be adjusted to make it comparable with that of the SCF because the LFS does not collect any information on the number of weeks worked.

9 This first adjustment may seem rather crude, since it does not take account of transitions from "employee" to "self-employed worker" status or vice versa during the year. Since the SCF is an annual survey, it records the respondent's status once—at the time of the survey (April 1998). This study made an additional adjustment to take these transitions into account. However, the effect is marginal, as may be seen in Appendix 2.

10 This conversion is not usually recommended. It is done here solely in an effort to reconcile conceptually the SCF and LFS ratios. If the comparison is confined to average overall measures, however, it is valid.

11 The SCF, a supplement to the April LFS, refers to the previous year. Usual work hours correspond, then, to those of April of the following year.

12 Making the same adjustments in work volume for "other" employees is riskier, owing to the diversity of work status within this group. Also, workers included in it are more likely to change their hours during the year. The assumption that average weekly work hours in 1997 are equivalent to usual hours in April 1998 is probably further from reality than is the case for full-year full-time workers. Overall, however, the final result is fairly reliable, although very detailed breakdowns should be avoided.

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Appendix 1—Data quality

The Labour Force Survey (LFS) and one of its supplements, the Survey of Consumer Finances (SCF), are used to produce estimates based on the data drawn from a sample survey of households. The gap between the estimates based on the sample and those derived from a complete enumeration conducted in similar conditions is called the **sampling error** of the estimates.

While the sampling error is not known, it can be estimated using the sample data. One such measure is the coefficient of variation (CV), the standard error as a percentage of the estimate. Generally, the larger the estimate, the smaller the CV. LFS-derived estimates that are less than 1,500

systematically have high CVs, and therefore are less reliable. The comparable value for the SCF is 2,250. In this article, earnings ratios derived from estimates based on at least 2,250 records (both in the numerator and in the denominator) for the SCF and 1,500 for the LFS are considered sufficiently reliable.

Errors unrelated to sampling can occur at almost any stage of a survey. Interviewers may not fully understand the instructions, respondents may make mistakes in answering questions, responses may be improperly entered on questionnaires, or errors may be introduced during the compilation or processing of the data. These errors are all examples of **non-sampling error**.

Over a great number of observations, random errors will have little effect on the survey estimates. However, errors that occur systematically will contribute to biases. Quality assurance measures were applied at each stage of the data collection and processing cycle, including the use of experienced interviewers, observation of interviewers and quality control procedures.

To obtain a more detailed description of the LFS and its objectives, coverage, sampling techniques, concepts, definitions, data quality, and so on, see the Appendix in *Historical Labour Force Statistics* (Catalogue no. 71-201-XPB).

Appendix 2—Exclusion of the self-employed

The SCF is conducted annually. Persons who were employees at the time of the survey may have been self-employed for part of the previous year and vice-versa.

To avoid including persons who changed status during the year, it is possible to consider only employees who have been in their job for at least 16 months (a period that covers the survey reference year up to the following April, when the SCF data are collected).

This adjustment has a minimal effect on the 1997 ratio, which drops to 78.5% (compared with 79.3% when duration of employment is not considered). The difference is also minor when age, marital status and education are taken into account.

	Female-to-male ratio (hourly wage)	
	All employees	In their job for at least 16 months*
	%	
All employees	79.3	78.5
Age		
15 to 24	95.3	90.0
25 to 34	85.0	83.5
35 to 44	79.2	79.9
45 to 54	74.6	74.2
55 and over	73.0	73.2
Marital status		
Single (never married)	99.9	97.2
Married or common-law	73.6	74.1
Other	85.0	83.7
Education		
Less than Grade 9	78.1	78.9
Some high school	71.8	69.6
High school graduation	79.8	78.7
Some postsecondary	80.0	76.9
Postsecondary certificate or diploma	78.6	78.4
University degree	80.1	80.1

Sources: Survey of Consumer Finances and Labour Force Survey, 1997

* Does not include the self-employment income of paid workers who had a second job in which they were self-employed.

Appendix 3—1998 LFS female-to-male hourly earnings ratios

Highlights

The female-to-male wage gap generally increases with age. In 1998, the ratio ranged from 90% for employees aged 15 to 24 to 75% for those aged 55 and over.

The wage ratio for part-time employees exceeded wage parity, reaching 114%, compared with 83% for full-time employees.

The wage gap tends to diminish as education increases. The ratio for employees with less than high school was 73%, in contrast to 85% for employees with a university degree.

Single employees experienced a higher ratio (92%) than married employees (78%).

Among industries, the wage gap was smallest for employees in agriculture and in services, whose ratios were 90% and 87%, respectively. This contrasts with a ratio of 68.5% for finance industries.

Women working in primary occupations faced a relatively large wage gap, with a ratio of about 67%. In contrast, the ratio for clerical and transport equipment operating workers was around 90%.

Unionized women earned 90 cents for every dollar earned by their male counterparts. These earnings compare favourably with those of non-unionized women, who earned just 78 cents for every dollar earned by non-unionized men.

	All ages	15-24	25-34	35-44	45-54	55 and over
All employees	82.1	89.7	87.9	81.6	77.3	75.0
Full-time	82.9	89.9	88.3	82.4	78.4	75.6
Part-time	113.8	101.6	104.1	94.2	81.4	92.9
Education						
Less than high school	72.8	84.3	74.6	71.0	68.4	71.1
High school graduation	80.8	82.7	81.5	78.4	74.3	76.5
Some postsecondary	82.6	90.2	88.4	78.5	76.7	69.2
Postsecondary certificate or diploma	80.4	87.3	85.2	80.8	77.4	79.1
University degree	85.1	90.6	89.4	88.9	84.9	81.2
Marital status						
Single (never married)	92.3	89.6	92.0	95.4	97.4	99.4
Married or common-law	78.3	84.4	85.6	79.3	75.3	73.3
Other	81.2	81.4	83.3	83.1	80.0	77.3
Job tenure						
<1 year	81.8	92.0	86.3	75.6	73.1	69.8
1-5 years	81.3	87.6	87.0	76.6	72.4	73.4
6-10 years	84.9	89.2	89.1	83.2	79.7	78.7
11-20 years	82.6	75.6	89.0	86.3	76.3	73.8
>20 years	83.8	-	--	85.9	85.6	77.1
Industry						
Agriculture	89.6	96.2	99.1	79.3	84.0	76.0
Other primary	81.2	78.5	86.9	84.3	74.4	82.2
Manufacturing	73.5	85.1	81.8	73.1	65.4	63.3
Construction	75.5	80.6	79.2	75.5	63.5	75.1
Transportation	86.9	86.3	98.6	86.3	86.4	69.9
Communication & other utilities	84.7	93.4	92.6	87.4	80.3	67.7
Trade	75.2	92.4	82.3	71.0	66.9	70.0
Finance	68.5	91.9	79.9	62.8	59.8	63.1
Insurance	74.8	112.6	78.6	74.1	73.1	58.2
Real estate	85.9	100.0	85.5	83.9	74.4	97.1
Service	87.2	97.1	90.7	85.8	79.8	77.8
Public administration	81.8	96.4	89.0	85.3	77.4	77.5
Occupation						
Managerial & other professional	81.4	92.4	89.3	82.1	77.9	73.4
Clerical	88.5	95.0	91.2	85.8	83.1	79.9
Sales	73.2	96.1	79.1	70.5	65.6	66.4
Service	73.1	96.6	76.0	67.8	62.6	76.6
Primary occupations	67.0	78.2	68.7	68.4	60.5	59.5
Processing, machining & fabricating	67.3	80.1	71.4	64.2	61.5	63.0
Construction	80.7	90.1	82.7	87.8	--	--
Transport equipment operating	89.0	80.4	95.8	89.1	88.1	89.5
Material handling & other crafts	69.9	86.9	74.4	67.2	56.2	66.4
Size of workplace						
<20 employees	81.0	88.6	85.4	78.0	75.4	76.5
20-99 employees	84.5	92.4	88.8	82.4	81.4	79.3
100-500 employees	80.8	90.4	86.9	81.2	76.2	73.1
>500 employees	86.7	90.3	93.2	90.0	81.9	77.6
Union status						
Union coverage	89.8	94.9	95.6	89.3	87.7	83.5
Member	90.1	94.8	96.2	89.6	88.1	83.9
Collective agreement	84.8	93.9	88.0	83.9	82.0	76.7
Non-unionized	78.1	89.5	84.6	77.0	69.1	69.4

Source: Labour Force Survey

Earnings of physicians

Abdul Rashid

Employment income has always varied widely, but some patterns have remained constant. As a rule, university graduates have earned more than those without a degree. And among university graduates, physicians have maintained relatively high earnings over the years (see *Notes and definitions*).

Although the demographic characteristics of physicians have changed considerably over the years—the profession now includes a significant proportion of women, for example—their earnings have continued to exceed the overall average (Statistics Canada, 1999). Using census data, this article presents a demographic and earnings profile of the medical profession and highlights changes between 1980 and 1995.

Characteristics

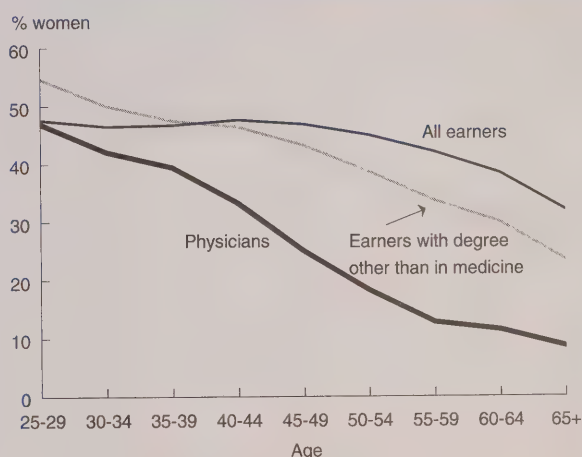
Female physicians are younger

In 1995, some 12,147,500 persons aged 25 and over worked and received employment income. Almost half (46%) were women. In contrast, only 29% of the 59,200 physicians were women (Table 1).

Overall, the age profiles of working men and women were similar. Men's median age (41.2 years) differed by less than a year from women's (40.5). In contrast, women in the medical profession were considerably younger than men (38.4 years versus 46.1). They formed 47% of the youngest group (25 to 29 years), but only 24% of those aged 40 to 59 and 10% of those aged 60 or over (Chart A).

Two factors are primarily responsible for this contrast. Participation of women in the labour force began to increase sharply in the 1960s, eventually matching that of men.¹ This was accompanied by fast growth in the number of women with higher levels of education, which allowed them to make strong inroads into higher paying occupations. Men contin-

Chart A: In 1995, almost half of the youngest physicians were women.



Source: Census of Canada, 1996

ued to dominate the older age groups, however. By 1996, the proportion of female physicians under age 35 was nearly twice that of male physicians (35% versus 18%). In contrast, only 14% of female physicians were at least 50, compared with 39% of male physicians.

Work patterns of physicians more intensive

Compared with 78% of all earners 25 years and over, 92% of physicians worked at least 40 weeks in 1995 (Table 1). Furthermore, irrespective of the number of weeks worked, 92% of physicians worked full time, compared with 83% of all earners.

Work patterns of men and women differed significantly. Compared with 80% of men, 76% of women worked 40 weeks or more. The respective proportions in the case of physicians were 94% and 88%. The proportion of women working mostly part time was three times that of men (27% versus 8%). The

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Table 1: Physicians and other earners, by selected characteristics, 1995

	All earners			Physicians			Other university graduates			All others		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000						'000			'000		
Total	12,148	6,588	5,560	59,220	41,925	17,295	2,283	1,235	1,048	9,805	5,311	4,494
Age												
25 to 29	1,650	865	785	5,240	2,785	2,460	385	175	210	1,260	688	572
30 to 34	2,005	1,072	933	8,405	4,870	3,530	398	199	199	1,599	868	731
35 to 39	2,080	1,109	971	9,565	5,800	3,765	370	195	176	1,700	908	791
40 to 44	1,914	1,005	909	9,380	6,260	3,115	361	194	167	1,544	805	739
45 to 49	1,709	909	800	7,750	5,805	1,940	344	195	148	1,358	708	650
50 to 54	1,231	678	553	6,060	4,950	1,110	218	134	84	1,007	540	467
55 to 59	813	472	341	4,170	3,640	530	114	75	38	695	393	302
60 to 64	471	290	181	3,770	3,345	430	55	38	16	412	248	164
65 and over	275	187	88	4,885	4,470	420	39	30	9	231	152	78
Median age	40.9	41.2	40.5	43.3	46.1	38.4	39.8	41.3	38.3	41.1	41.1	41.0
Average years of education	13	13	13	21	21	21	18	18	18	12	12	12
Class of worker	'000						'000			'000		
Paid worker	10,454	5,457	4,997	22,370	14,340	8,020	1,970	1,023	946	8,462	4,419	4,043
Self-employed	1,650	1,122	528	36,855	27,580	9,270	310	211	99	1,303	884	420
Weeks worked												
1 to 13	635	287	349	890	600	295	93	41	51	542	245	297
14 to 26	1,082	537	544	2,165	1,270	900	164	71	94	915	465	450
27 to 39	898	472	426	1,520	665	860	150	63	88	746	408	337
40 to 52	9,533	5,293	4,241	54,640	39,385	15,250	1,876	1,060	815	7,603	4,193	3,410
Work intensity												
Mostly full time	10,091	6,040	4,052	54,725	39,665	15,055	1,937	1,131	806	8,100	4,869	3,231
Mostly part time	2,056	548	1,508	4,500	2,260	2,240	347	105	242	1,705	441	1,264
Average annual hours	1,609	1,805	1,377	2,293	2,426	1,970	1,733	1,929	1,501	1,576	1,771	1,346

Source: Census of Canada, 1996

same pattern prevailed among physicians (13% versus 5%). On the whole, 77% of male earners and 60% of female earners worked at least 40 weeks, mostly full time. The respective proportions among physicians were 90% and 79%.

On average, men worked 1,805 hours in 1995, about 31% more than women (1,377). Average annual hours of physicians were significantly greater. Male physicians worked 2,426 hours, about 34% more than the average for all male earners. Similarly, female physicians worked 1,970 hours, 43% more than the average for all female earners. Work patterns of uni-

versity graduates with a degree in a discipline other than medicine were less intensive than physicians' but more so than the overall average.

Earnings

Average employment income of all workers 25 years and over amounted to \$30,600 in 1995 (Table 2). At \$105,200, the average earnings of physicians were nearly three-and-a-half times the overall average and nearly two-and-a-half times greater than that of other university graduates (\$43,200).

Table 2: Average earnings of physicians and other earners, by selected characteristics, 1995

	All earners			Physicians			Other university graduates			All others		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	\$			\$			\$			\$		
Total	30,600	36,800	23,200	105,200	117,200	76,000	43,200	51,500	33,500	27,200	32,700	20,600
Age												
25 to 29	21,700	24,400	18,700	41,200	42,400	39,900	24,700	26,800	22,900	20,700	23,700	17,100
30 to 34	27,500	32,200	22,100	84,700	94,900	70,600	36,200	41,600	30,800	25,000	29,700	19,500
35 to 39	31,200	37,700	23,900	105,600	120,900	82,000	44,400	52,900	34,900	27,900	33,900	21,100
40 to 44	33,700	41,100	25,500	117,900	134,700	84,300	49,200	58,900	38,000	29,500	36,100	22,400
45 to 49	35,500	43,600	26,400	125,600	136,500	92,700	52,800	61,800	40,900	30,600	37,800	22,900
50 to 54	35,800	44,400	25,200	130,400	138,700	93,700	56,200	65,800	41,000	30,800	38,200	22,300
55 to 59	32,500	39,800	22,400	130,600	135,400	97,500	54,100	62,300	38,000	28,400	34,600	20,300
60 to 64	29,100	35,000	19,600	123,000	128,500	80,100	48,400	55,500	31,900	25,700	30,600	18,300
65 and over	22,400	26,100	14,500	84,600	86,700	61,500	36,700	41,400	21,400	18,600	21,300	13,400
Class of worker												
Paid worker	30,700	37,200	23,700	82,000	93,900	60,700	43,000	51,200	34,100	27,800	33,800	21,100
Self-employed	30,000	34,800	19,900	119,300	129,400	89,200	45,000	53,100	27,800	23,900	27,400	16,600
Weeks worked												
1 to 13	7,000	9,000	5,300	20,800	21,300	19,600	8,100	9,800	6,600	6,800	8,900	5,000
14 to 26	13,200	15,900	10,600	32,100	34,700	28,300	15,900	17,800	14,400	12,700	15,500	9,800
27 to 39	19,100	22,700	15,200	60,300	75,400	48,500	23,000	25,800	21,000	18,300	22,100	13,600
40 to 52	35,200	41,700	27,100	110,700	122,100	81,400	49,000	56,900	38,700	31,300	37,000	24,100
Work intensity												
Mostly full time	34,300	38,900	27,300	110,300	121,400	81,000	48,200	54,900	38,800	30,400	34,600	24,200
Mostly part time	12,500	13,000	12,300	43,300	44,400	42,300	15,500	15,000	15,800	11,800	12,400	11,600
Hourly earnings	19.00	20.38	16.87	45.88	48.32	38.58	24.96	26.71	22.30	17.24	18.47	15.34

Source: Census of Canada, 1996

Earnings higher for workers in their fifties

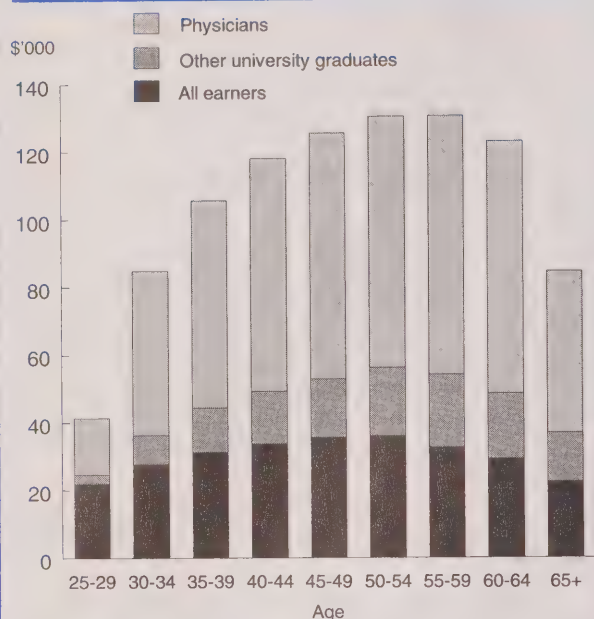
In general, young workers begin with relatively low earnings. As experience and job training increase, earnings rise, reach a peak, and then begin to slip as workers approach retirement. On average, workers aged 25 to 29 in 1995 earned \$21,700, some 71% of the overall average, and those aged 30 to 34 earned \$27,500 (90%). Average employment income peaked at \$35,800 in the 50-to-54 years group (Chart B).

Earnings of physicians followed this overall pattern with some sig-

nificant differences. First, those aged 25 to 29 earned \$41,200, substantially less than the average for their profession. The relatively low earnings of these young physicians (and those of other university graduates) may reflect their late entry into the labour force. On average, workers 25 years and over spent 13 years in formal education. In comparison, physicians spent 21 years, and other university graduates, 18 years. Moreover, before medical graduates are licensed to practise on their own, they are required to serve as residents in a medical facility.

Second, average earnings of female physicians peaked in the 55-to-59 age group—later than the average for all other female workers. This helped maintain the above-average earnings of physicians in this age group, which is characterized by declining earnings for workers in general.

Third, earnings of physicians exhibited a different pattern by age than did earnings overall. For example, while the difference in average earnings between the youngest (25 to 29) and the next age group (30 to 34) was 27% overall, it was 47% for university

Chart B: Physicians' earnings peaked later than those of other earners.

Source: Census of Canada, 1996

or only 37% of that earned by those who worked mostly full time (\$34,300). Similar differences existed for physicians (39%) and other university graduates (32%).

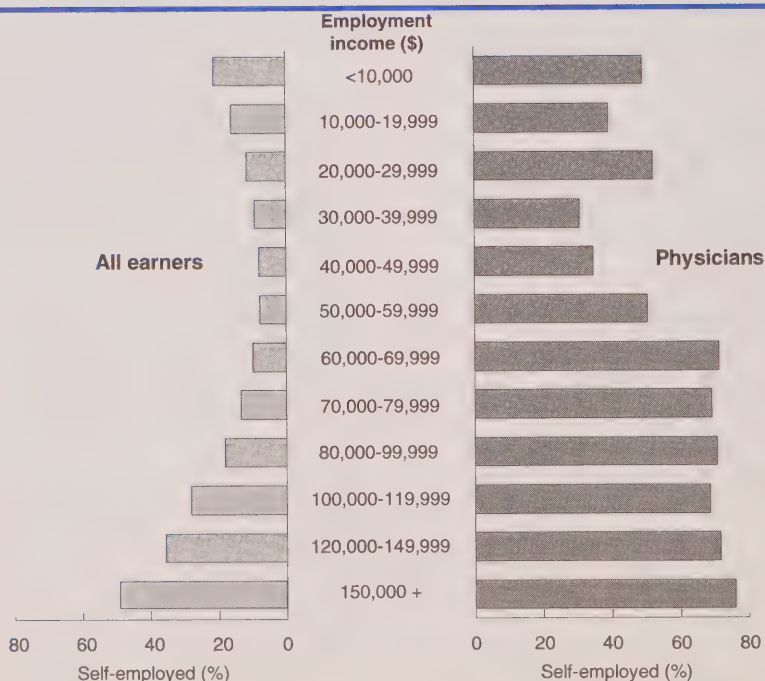
The distribution of full-time working men and women by number of weeks worked was almost identical. In the case of part-time workers, women worked significantly more weeks than men: 59% worked at least 40 weeks, compared with 45% of men. As a result, while the average earnings of full-time working men were 43% higher than those of their female counterparts, average earnings of part-time workers differed by less than 6%. Similarly, the average employment income of full-time male physicians (\$121,400) was 50% greater than that of their female counterparts (\$81,000), but that of part-time physicians was only 5% higher.

While *annual* earnings of physicians exceeded the overall average by 244% in 1995, their average *hourly* earnings were higher by 141% (see *Notes and definitions*). Similarly, compared with other university graduates, physicians averaged 143% more per annum, but 84% more per hour. Their longer work hours accounted for an estimated 23% of the difference between their

graduates with degrees in a discipline other than medicine and 105% for physicians. In the next age group (35 to 39), workers overall gained 13%, non-medical graduates, 22% and physicians, 25%. This pattern resulted in a much greater variation by age in the earnings of physicians and university graduates.²

Earnings and work activity closely related

In 1995, persons 25 years and over who worked less than 14 weeks earned on average \$7,000—only 20% of that earned by those who worked at least 40 weeks (\$35,200). Differences were similar for physicians (19%) and for those with a non-medical degree (16%). The pattern held for men and women. Irrespective of the number of weeks worked, those who worked mostly part time earned \$12,500,

Chart C: Regardless of earnings level, physicians were more likely than other earners to be self-employed.

Source: Census of Canada, 1996

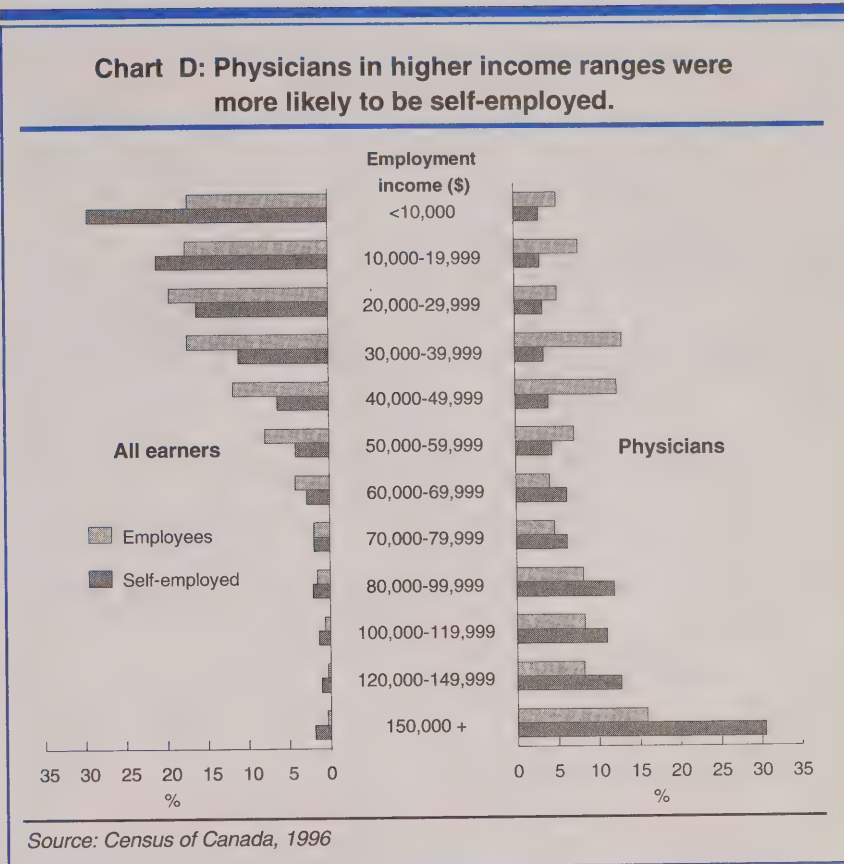
average earnings and those of other university graduates, and about 17% of the gap between their earnings and those of workers overall.

Most physicians self-employed

On the whole, just 14% of earners aged 25 and over in 1995 were self-employed,³ while 86% were employees (Table 1). The incidence of self-employment was higher among men (17%) than women (9%). In contrast, self-employment was the norm among physicians (62%); nearly two-thirds of men and a little over half of women worked for themselves.

Overall, average earnings of the self-employed (\$30,000) were 2% lower than those of employees (\$30,700). However, this does not reflect some key differences between the two groups. For instance, about one-fifth of all workers earning less than \$10,000 in 1995 were self-employed (Chart C). The proportion of self-employed workers diminished as earnings levels approached \$60,000, and then increased. Nearly one-half of all workers earning \$150,000 or more were self-employed. The pattern was similar among physicians, though the proportion was much higher at each level. Three out of four physicians earning \$150,000 or more were self-employed.

These patterns affect the overall earnings distribution of paid workers and the self-employed. Compared with about one-third of paid workers, one-half of the self-employed had earnings of less than \$20,000 in 1995 (Chart D). Only after \$80,000 did the proportions of self-employed earners exceed those of employees. Compared with about 1% of all employees, some 5% of the self-employed



earned \$100,000 or more. Consequently, as opposed to a 2% difference in *average* earnings, a 29% gap in *median* earnings existed between the self-employed and employees (\$19,700 versus \$27,800).

In the case of physicians, the situation was the reverse. In this profession, self-employment generated a substantially higher level of earnings than did paid work. Compared with about one-third of physicians working as employees, over one-half of self-employed physicians earned at least \$100,000 in 1995. Their average earnings (\$119,300) were 46% greater than those of their employee counterparts (\$82,000) and their median earnings were 82% greater (\$107,600 versus \$59,000).

On the whole, average earnings of self-employed men were 7% less than those of male employees; self-employed women earned 16% less than female employees. In the case of physicians, both men and women who ran their own practices earned significantly more than employees: 38% and 47%, respectively.

Women earn less

On the whole, average earnings of women in 1995 amounted to about 63% of the average earnings of men.⁴ This holds true for different groups. Female physicians earned, on average, 64.8% of male physicians' earnings; other female university graduates earned 65.0% of their male counterparts' earnings. Age

Table 3: Women's earnings standardized for various factors, 1995

		All earners	Physicians	Other graduates	All others
		\$			
Actual earnings of women		23,200	76,000	33,500	20,600
Actual earnings of men		36,800	117,200	51,500	32,700
Average earnings of women standardized by					
Age	$\Sigma (PAm_i \cdot YAf_j)$	23,100	80,100	34,400	20,500
Weeks worked	$\Sigma (PWm_i \cdot YWf_j)$	24,000	78,400	35,300	21,200
Worked full/part time	$\Sigma (PFm_i \cdot YFf_j)$	26,000	78,900	36,900	23,100
Weeks and time	$\Sigma (PWFm_i \cdot YWFF_j)$	26,100	80,800	37,900	23,100
Age, weeks and time	$\Sigma (PAWFm_i \cdot YAWFF_j)$	26,400	85,900	38,800	23,000
Ratio of women's to men's earnings		%			
Actual		63.0	64.8	65.0	63.0
Standardized		71.7	73.3	75.3	70.3

Source: Census of Canada, 1996

P = Proportion of men in category i
 Y = Average earnings of women in category j
 A = Age group

W = Weeks worked in 1995
 F = Full- and part-time earners
 m_i = Men in an age/weeks/work category
 f_j = Women in an age/weeks/work category

group (25 to 29) earned around 94% of that of their male counterparts. However, because women's significant presence among university-educated workers is relatively recent, they are still concentrated in the younger, lower-earning groups. Thus, men account for a greater proportion in the higher-earning age groups. This has a negative effect on the overall average earnings of women. Other things being equal, had female physicians and other university graduates had the same age distribution as their male counterparts in 1995, their average earnings would have been higher by 5% and 3%, respectively.

Differences in earnings by sex were due in part to work patterns. Overall, female earners put in slightly fewer weeks but a significantly greater proportion of them worked part time. If they had had the same work patterns as their male counterparts, their average earnings would have been 13% greater than their actual earnings. The effect in the case of physicians

and work patterns accounted for a significant part of the disparity in earnings by sex.

Although women made up 46% of all earners, they accounted for a relatively small proportion of workers in the lower-earning pre-retirement age groups. This had a favourable effect on their earnings (Table 3). Other things being equal, had women's age distribution been the same as men's, their employment income would have been slightly smaller (0.6%).

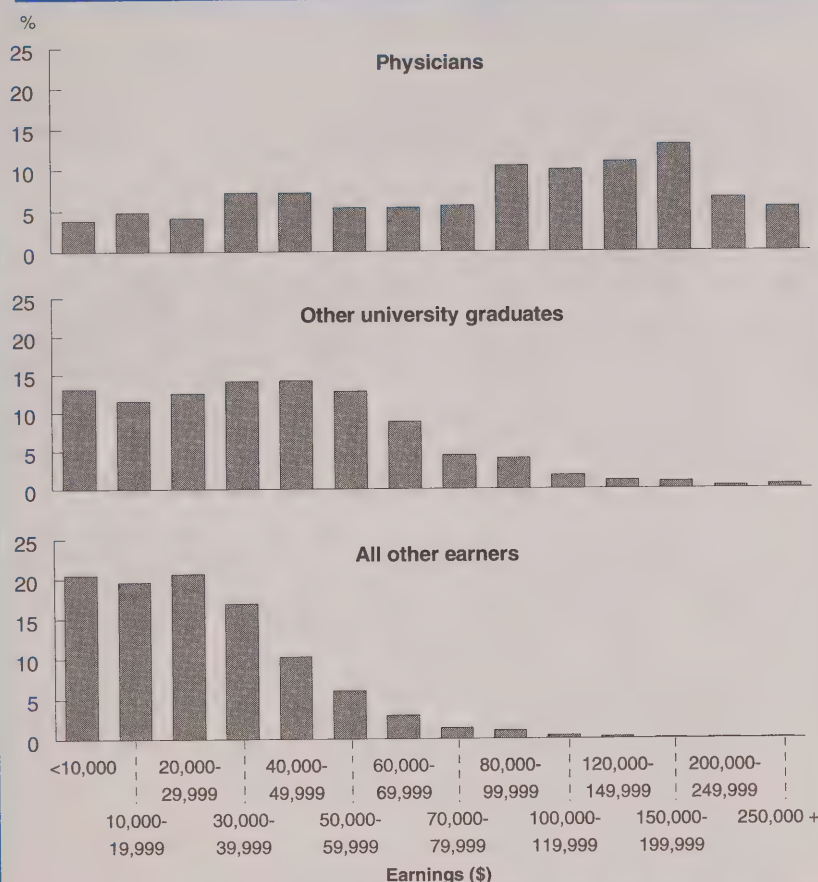
Except for two age groups—40 to 44 and 60 to 64—physicians showed higher-than-average earnings ratios in all age groups. In fact, female physicians in the youngest

Table 4: Ratio of women's to men's average annual and hourly earnings, 1995

	All earners		Physicians		Other graduates		All others	
	Annual	Hourly	Annual	Hourly	Annual	Hourly	Annual	Hourly
All ages	63.2	82.8	64.8	79.8	65.0	83.5	63.1	83.1
25 to 29	76.6	97.6	94.2	107.7	85.1	99.7	72.1	94.9
30 to 34	68.6	95.0	74.4	98.8	74.0	101.0	65.6	91.5
35 to 39	63.4	86.1	67.8	95.5	65.9	91.6	62.4	84.4
40 to 44	62.0	80.5	62.5	79.7	64.6	84.5	62.1	80.3
45 to 49	60.6	77.4	67.9	87.0	66.2	81.6	60.7	77.7
50 to 54	56.9	73.9	67.6	85.2	62.3	77.4	58.3	75.7
55 to 59	56.3	74.6	72.0	88.5	60.9	75.8	58.7	77.9
60 to 64	56.1	77.2	62.3	87.1	57.4	78.6	59.7	81.5
65 and over	55.5	82.1	70.9	74.5	51.7	70.6	63.0	94.0

Source: Census of Canada, 1996

Chart E: In 1995, more than half of all physicians earned \$70,000 or more.



Source: Census of Canada, 1996

was much smaller (6%), reflecting the similarity in men's and women's work patterns.

On the whole, if both age and work patterns of female earners 25 years and over had been identical to those of men in 1995, their average earnings would have been over 13% higher than their actual earnings. Average earnings of female physicians would have been 13% higher and those of other female graduates, 16%. The overall female-to-male earnings ratio would have been 72%, while that

of physicians would have been 73%, and that of other university graduates, 75%.

Overall, compared with an *annual* earnings ratio of 63%, women's *hourly* earnings were 83% of men's (Table 4). The corresponding figures for physicians were 65% and 80%, and for other university graduates, 65% and 84%. Furthermore, the ratio of female-to-male hourly earnings for physicians aged 25 to 29 was 108%, and for those aged 30 to 34, 99%. Similarly, average hourly earnings

of other women under 35 with a university degree were at par with those of their male counterparts. Overall, women's fewer annual hours accounted for 53% of the difference between their average earnings and those of their male counterparts.⁵ In the case of physicians, annual hours accounted for about 43% of the difference.

Distribution of earnings

About one-fifth (19%) of all persons 25 and over who worked in 1995 reported total earnings of less than \$10,000, and over one-half (56%) earned less than \$30,000. Only one in 10 earned \$60,000 or more.

Workers who did not have a university degree (four out of five in 1995) earned considerably less (Chart E). Over 20% earned less than \$10,000, 20% earned between \$10,000 and \$20,000, and another 20% earned between \$20,000 and \$30,000. Less than 1% had earnings of \$100,000 or more.

Those with a university degree other than in medicine were less concentrated at the lower end of the earnings scale. One-quarter had earnings of less than \$20,000 in 1995, and about one-third earned at least \$50,000. Only 4% reported earnings of \$100,000 or more.

In contrast, less than 10% of physicians reported earnings under \$20,000. About 46% of all physicians earned at least \$100,000 in 1995, with 5% reporting earnings of \$250,000 or more.

Specialists earn more than other physicians

A little over one-third of all physicians were specialists; the rest were general practitioners and family

Table 5: Average earnings of specialist and other physicians, 1995

	Specialist physicians						General practitioners and family physicians					
	Number			Average earnings			Number			Average earnings		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	\$						\$					
Total	21,565	15,585	5,975	116,500	130,800	79,300	37,660	26,335	11,320	98,700	109,200	74,200
Age												
25 to 29	1,765	980	785	37,800	39,400	35,900	3,475	1,805	1,675	43,000	44,000	41,800
30 to 34	2,930	1,835	1,095	87,600	97,400	71,400	5,470	3,040	2,430	83,100	93,500	70,200
35 to 39	3,420	2,195	1,225	116,000	132,700	86,300	6,145	3,605	2,540	99,800	113,800	79,900
40 to 44	3,300	2,270	1,030	136,500	158,300	88,500	6,085	3,995	2,085	107,900	121,300	82,200
45 to 49	2,680	1,885	795	135,500	154,300	90,900	5,070	3,925	1,140	120,300	128,000	94,000
50 to 54	2,290	1,855	440	147,200	155,800	111,000	3,770	3,095	675	120,200	128,400	82,500
55 to 59	1,650	1,390	265	139,200	147,400	95,700	2,520	2,250	265	125,000	128,000	99,400
60 to 64	1,660	1,485	175	143,300	150,700	80,100	2,110	1,860	250	107,000	110,700	80,000
65 and over	1,865	1,705	160	93,300	96,100	63,300	3,025	2,765	255	79,200	80,900	60,400
Weeks worked												
1 to 13	380	245	140	18,200	20,700	14,000	510	355	155	22,600	21,700	24,600
14 to 26	755	400	350	35,500	39,500	31,000	1,415	865	550	30,200	32,500	26,500
27 to 39	550	285	265	76,800	98,300	53,200	975	375	595	50,900	58,000	46,400
40 to 52	19,880	14,655	5,225	122,600	135,800	85,600	34,760	24,735	10,025	103,900	113,900	79,200
Work intensity												
Mostly full time	19,900	14,760	5,140	122,800	135,600	86,100	34,820	24,905	9,910	103,100	113,000	78,400
Mostly part time	1,660	825	835	41,900	45,800	38,000	2,840	1,430	1,405	44,200	43,600	44,800
Average annual hours	2,306	2,440	1,955				2,285	2,418	1,977			
Average hourly earnings				50.54	53.60	40.57				43.18	45.17	37.54

Source: Census of Canada, 1996

physicians (Table 5). Women accounted for 28% of specialists and a similar proportion of general practitioners (30%).

Average earnings of specialists (\$116,500) were 18% higher than those of general practitioners and family physicians (\$98,700). The difference was greater for men than for women (20% and 7%, respectively). As a result, the ratio of female-to-male earnings among specialists was 61%, compared with 68% for general practitioners. On the basis of hourly earnings, the respective ratios were 76% and 83%.

Although the relationship between earnings and age or sex was similar for both men and women, two points are noteworthy. First, both male and female

specialists aged 25 to 29 earned, on average, less than young general practitioners. Second, while male specialists earned consistently more than general practitioners in all other age groups, the difference for female physicians showed considerable variation.

Changes between 1980 and 1995

Changes in overall economic activity as well as in workers' characteristics affect earnings. The number of persons 25 years and over who worked and reported employment income increased by 33% between 1980 and 1995 (Table 6 and Table 1). This was consistent with the corresponding growth of 34% in population (men, 33% and women, 36%).

Table 6: Physicians and other earners by selected characteristics, 1980

	All earners			Physicians			Other university graduates			All others		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000						'000			'000		
Total	9,105	5,516	3,589	39,680	33,175	6,505	1,133	743	390	7,932	4,740	3,192
Age												
25 to 29	1,791	1,012	780	6,165	4,210	1,955	277	154	123	1,509	854	655
30 to 34	1,626	963	663	6,730	5,170	1,560	284	180	104	1,335	778	557
35 to 39	1,300	776	524	6,055	5,075	975	195	135	60	1,099	636	463
40 to 44	1,060	630	430	4,620	4,015	610	121	86	35	935	541	394
45 to 49	962	588	374	4,305	3,870	435	84	59	24	874	525	349
50 to 54	883	555	328	3,745	3,395	350	68	48	20	812	504	308
55 to 59	741	477	264	3,535	3,260	275	53	41	13	684	433	250
60 to 64	481	325	156	2,120	1,925	195	31	23	7	448	300	148
65 and over	260	189	71	2,405	2,250	155	21	17	4	237	170	67
	years			years			years			years		
Median age	39.3	40.1	38.3	40.8	42.5	33.8	35.1	36.3	33.3	40.1	40.9	39.1
Weeks worked	'000						'000			'000		
1 to 13	529	184	345	460	320	145	43	16	26	486	168	319
14 to 26	786	371	415	1,360	890	475	79	35	43	706	335	371
27 to 39	686	369	317	1,250	800	445	79	38	41	607	331	276
40 to 52	7,103	4,592	2,511	36,600	31,170	5,430	933	654	280	6,133	3,907	2,226
Work intensity												
Mostly full time	7,756	5,204	2,553	37,215	31,920	5,295	1,014	707	306	6,706	4,464	2,241
Mostly part time	1,348	312	1,036	2,465	1,250	1,205	120	36	84	1,226	276	951
Average earnings	1995 \$			1995 \$			1995 \$			1995 \$		
All ages	31,800	39,400	20,200	107,500	116,100	63,600	47,300	55,300	32,000	29,300	36,400	18,700
25 to 29	26,400	31,500	19,900	49,300	52,400	42,800	30,600	34,000	26,400	25,500	30,900	18,600
30 to 34	31,700	39,100	20,800	89,200	98,400	58,500	42,800	49,300	31,500	29,000	36,400	18,700
35 to 39	34,700	44,000	20,900	121,200	130,500	72,900	52,700	60,800	34,500	31,000	39,700	19,000
40 to 44	35,000	44,700	20,600	136,300	144,200	83,500	58,700	67,500	37,200	31,400	40,400	19,100
45 to 49	35,200	44,400	20,600	140,000	146,300	84,000	63,000	72,800	38,800	32,000	40,500	19,200
50 to 54	34,700	43,200	20,300	141,100	145,800	95,900	64,400	74,300	40,000	31,700	39,600	19,000
55 to 59	33,000	40,400	19,600	128,000	130,600	96,600	64,300	72,400	39,000	30,000	36,700	18,500
60 to 64	30,300	35,700	19,100	112,700	116,200	78,000	57,700	64,400	36,400	28,000	32,900	18,100
65 and over	21,000	23,600	13,900	73,500	76,300	34,000	35,200	38,800	20,700	19,200	21,500	13,500
Weeks worked												
1 to 13	6,400	10,200	4,300	21,900	22,400	20,900	7,800	10,600	6,000	6,200	10,200	4,200
14 to 26	13,900	18,700	9,500	28,200	30,800	23,400	16,900	20,000	14,400	13,500	18,500	8,900
27 to 39	21,200	26,800	14,700	47,700	54,900	34,800	27,100	31,200	23,300	20,400	26,300	13,400
40 to 52	36,800	43,200	24,900	113,600	121,100	70,600	53,300	59,700	38,400	33,800	39,900	23,100
Work intensity												
Mostly full time	35,200	40,700	24,200	111,600	118,500	69,500	50,900	57,000	36,900	32,400	37,500	22,300
Mostly part time	12,400	18,400	10,500	46,700	55,200	37,900	16,300	21,400	14,100	11,900	17,800	10,200

Source: Census of Canada, 1981

Note: For comparable 1995 figures, see Tables 1 and 2.

The number of male earners increased by 19%, while that of female earners grew by 55%. The difference in the case of physicians was even greater.

While the total number of physicians increased by 49%,⁶ that of men in the profession did so by 26%, and that of women, by 166%.

Notes and definitions

Earnings (employment income) are the sum of wages and salaries and net self-employment income from the operation of a farm, business or professional practice owned and operated by the respondent. Self-employment income is calculated after business expenses but, as with wages and salaries, before income tax.

All income figures are expressed in **1995 dollars**, meaning that actual earnings for earlier years have been adjusted for changes in the Consumer Price Index.

The 1980 Standard Occupational Classification, used in the 1981 Census, classified **physicians and surgeons** in a single group (3111). The 1991 Standard Occupational Classification, used for data from the 1996 Census, classifies medical doctors into two groups: specialist physicians (D011) and general practitioners and family physicians (D012). For the most part, however, these are treated as a single group in order to facilitate comparisons.

Paid workers work for others, while the **self-employed** work for themselves in an *unincorporated* farm, business or professional practice, with or without paid help. Respondents who describe themselves as self-employed in an *incorporated* enterprise, though technically employees of the corporation, are more like the self-employed in their economic behaviour. Furthermore, they tend to own most of the capital invested in the enterprise. Their income is, therefore, a mixture of returns to labour and capital. Accordingly,

these persons are classified here with the unincorporated self-employed. Finally, a small group designated as unpaid workers in a business owned and operated by a family member is included in the totals but not discussed separately.

Census respondents reported the number of weeks worked in the preceding calendar year and weekly hours worked in their job at the time of the census. **Annual hours** were estimated as a product of these two variables.

Selection of universe

Persons selected for this analysis were at least 25 at the time of the 1996 Census, had worked in 1995 and had reported employment income for that year.

Of the 15 million persons who worked and reported earnings in 1995, about 2.4 million or 17% were aged 15 to 24. Over 93% of these young earners were without a university degree. Only 1% of physicians fell into this age group. Their 1995 earnings, considerably lower than those of others in the profession, were probably casual earnings of medical students and trainees. Although their small proportion would not affect the overall average earnings of physicians, that of young earners overall, being much larger, would depress overall average earnings. This would distort comparisons. Accordingly, this age group was excluded from the analysis.

As was pointed out earlier, these changes are a function of both the growing participation of women in the labour force and their increasing level of education. For example, during the period under review, the number of male earners with a university degree other than in medicine increased by 66%, while that of their female counterparts grew by 169%.

The age profile of earners also changed between 1980 and 1995. The changes in the number of earners ranged from a decline of 8% in the youngest group to an increase of 81% in the group aged 40 to 44. In the case of physicians, the proportion of men declined among those under 35 and increased in all other age groups. Increases among

women in the profession ranged from 26% in the youngest group (25 to 29) to 411% in the 40-to-44 years group.

Significant changes occurred in the work patterns of earners. Among men, the proportion of earners working at least 40 weeks declined three percentage points; among women, it increased six points. In the case of physicians and other university graduates, work patterns changed little among men; however, the proportions of women working at least 40 weeks increased five and six percentage points, respectively. Furthermore, regardless of the number of weeks worked, the proportion of women working mostly full time also increased during the period.

As a consequence of the recession of the early 1980s, workers 25 years and over lost 3.9% in real earnings between 1980 and 1985. They recovered 2.9% between 1985 and 1990, only to lose it as a result of the early 1990s recession. Thus, overall real average earnings fell 4.0% between 1980 and 1995.

Average earnings of men and women moved in opposite directions (Statistics Canada, 1998). Over the 15-year period, men lost 7% while women gained 15%. In contrast, although physicians' average earnings declined 2% over 15 years, neither men nor women lost in real terms. Between 1980 and 1995, male physicians actually gained 1%: their earnings moved from \$116,100 to \$117,200. Real

average earnings of female physicians increased by 19%: from \$63,600 to \$76,000.

One reason for the different rates of change in earnings is the two groups' different rates of growth. As noted earlier, the increase in the number of male physicians was less than that of the overall population 25 years and over, indicating a more or less normal rate of entry and exit for men in the profession. In contrast, new female physicians did not just replace those leaving, but were an addition to the profession. As they gained experience, their earnings increased. As a result, real average earnings of female physicians rose throughout the period under review. However, because they earned less than their male counterparts, their growing proportion (from 16% in 1980 to 29% in 1995) depressed the overall average earnings of physicians.

The increasing proportion of female earners exerted a strong downward pressure on overall average employment income, especially in the case of workers with higher levels of education (Table 7). Other things being equal, if the sex composition of workers had not changed between 1980 and 1995, overall average earnings would have increased by 3%. For both physicians and other university graduates, the effect would have been even greater (5% in each case).

This was more than balanced by the effect of a maturing workforce. If the age distribution had not changed between 1980 and 1995, overall average earnings would have been 3% lower; in contrast, physicians and other university graduates would have seen increases of 5% and 8%.

Changes in work patterns had a positive effect on women's earnings and a negative effect on men's. The overall net effect of such changes was relatively small (around 1%) except for university graduates other than in medicine (3%).

Taken together, changes in sex, age and work profiles between 1980 and 1995 had a positive effect on the earnings of physicians (0.4%) and other university graduates (0.6%) and a negative effect on the earnings of others (-1.5%).

Summary

Compared with 46% of workers 25 years and over in 1995, women

accounted for 29% of physicians. Among the latter, women were concentrated in the lower age groups. So, while the overall median age of working men and women differed by less than a year, female physicians were about eight years younger than their male counterparts.

In general, women worked fewer weeks than men, and a larger proportion worked part time. This pattern prevailed among physicians, although both men and women in this profession worked more weeks and longer hours than other workers. Overall, men worked 1,805 hours and women, 1,377; physicians worked 2,426 hours and 1,970, respectively.

Table 7: Effect on earnings of changes in earners' characteristics, 1980-1995

		All earners	Physicians	Other graduates	All others
		\$			
Actual 1995 earnings		30,600	105,200	43,200	27,200
Standardized by					
Sex	$\Sigma (PS_i \cdot YS_i)$	31,400	110,500	45,300	27,900
Age	$\Sigma (PA_i \cdot YA_i)$	29,600	99,900	39,800	26,500
Sex and age	$\Sigma (PSA_i \cdot YSA_i)$	30,500	104,600	41,700	27,200
Weeks worked	$\Sigma (PW_i \cdot YW_i)$	30,500	105,400	41,700	27,200
Worked full/part time	$\Sigma (PF_i \cdot YF_i)$	31,000	106,100	44,800	27,500
Weeks and time	$\Sigma (PWF_i \cdot YWF_i)$	30,800	106,100	44,600	27,400
Sex, age, weeks and time	$\Sigma (PSAWF_i \cdot YSAWF_i)$	30,900	104,800	43,000	27,600

Source: Census of Canada, 1981 and 1996

P = Proportion of earners in 1980 in category *i*

Y = Average earnings in 1995 in category *j*

S = Male and female earners

A = Earners in age category *i*

SA = Male and female earners in age category *i*

W = Earners in "weeks worked" category *i*

F = Full-and part-time earners

WF = Full-and part-time earners in "weeks worked" category *i*

SAWF = Earners in category *i* of sex-age-weeks-full/part-time

Compared with 14% of all earners, 62% of physicians were self-employed.

At \$105,200, physicians earned 244% more than the overall average of \$30,600 in 1995, and 143% more than workers with a university degree in a discipline other than medicine. Longer work hours accounted for about 17% of the difference between physicians' average and overall earnings. On the whole, self-employed workers earned 2% less than paid workers; among physicians, those with their own practice earned 46% more than others.

While 56% of all workers earned less than \$30,000 in 1995, less than 2% earned \$100,000 or more. Comparable proportions for physicians were 13% and 46%, with 5% reporting earnings of at least \$250,000.

A little over one-third of all physicians were specialists, whose average earnings were 18% higher than those of general practitioners and family physicians (\$116,500 versus \$98,700).

Overall, the ratio of female-to-male average earnings was 63%; the comparable ratio for physicians was 65%. If women had had the same age and work patterns as men, ratios would have been 72% and 73%, respectively. The ratio of average hourly earnings overall was 83%. In the case of physicians, it was 80%. Little difference existed in average earnings per hour for those under age 35.

Between 1980 and 1995, the number of earners aged 25 and over increased by 33%: men by 19% and women by 55%. The number of physicians increased by 49%: men 26%, women 166%.

As a result of the recessions of the early eighties and nineties, real average earnings fell 4% between 1980 and 1995. Male earners lost 7% but female earners gained 15%. In the case of physicians, men and women gained, respectively, 1% and 19%. However, overall average earnings of physicians declined 2%. This was because of the extraordinary growth in the number of young female physicians. Their lower earnings depressed the profession's average. At the same time, a maturing workforce had a positive effect on earnings. If the sex composition and age and work profiles of workers had not changed between 1980 and 1995, average earnings of physicians and other university graduates in 1995 would have been slightly lower and those of all other workers, 1% higher.

Notes

1 In fact, the number of young (15 to 24 years) female earners in 1995 exceeded that of young male earners.

2 This is estimated by using the following formula:

$$\text{coefficient of variation (CV)} = \sqrt{\sum P_i (Y_i - \bar{Y})^2} / \bar{Y}$$

where P_i is the proportion of earners in the i th age group in a category, Y_i equals their average earnings and \bar{Y} is the overall average earnings of the category. The CV of average earnings by age for physicians (24.6%) and other university graduates (22.2%) was twice that for other earners (12.7%).

3 See *Notes and definitions*.

4 Most published statistics relating to female-to-male income ratios are restricted to persons who work 49 to 52 weeks, mostly full time. However, this section covers all earners 25 years and over; the effect of differences in work activity is estimated separately.

5 The proportion, P , of the earnings difference ascribed to the difference in hours was calculated as follows:

$$P = Y_f \cdot \frac{\frac{H_m}{H_f} - 1}{Y_m - Y_f}$$

where Y_f and Y_m are the average earnings of women and men and H_f and H_m are their annual work hours.

6 Overall, there was one physician aged 25 or over for every 613 Canadians in 1981. By 1996, this had changed to one physician for every 487 Canadians.

References

Statistics Canada. *Canadian Income and Earnings for 1990 and 1995*. Dimension series, 1996 Census of Canada. CD-ROM Catalogue no. 94F0005XCB. Ottawa, 1999.

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Exports, GDP and jobs

Grant Cameron

The share of exports in aggregate demand began rising in the 1970s, after hovering around 20% during the 1950s and 1960s. However, the increase in the share of exports in GDP has been exceptionally high in the 1990s; after averaging about 25% in the five years leading up to the Canada-U.S. Free Trade Agreement, exports as a proportion of nominal GDP (that is, unadjusted for price changes) soared above 40% by 1998, the highest of any G7 nation.¹ Imports have mirrored the trend in exports, with trade across the U.S. border being the driving force for both.

This article attempts to explore the issue of goods moving back and forth across the border at various stages of processing. If this has increased in recent years, it will have increased the measured rate of export growth without a corresponding full increase in the economic effects of those exports. Since the Auto Pact of 1965, much of the increased flow of auto goods across the border can be attributed to parts used in assembly and then re-exported. With free trade and globalization, is this type of production process spreading to other industries and inflating trade flows relative to their actual contribution to the economy? And if imports are rising almost as fast as exports, what is the net benefit of trade to Canada?

This paper uses Statistics Canada's Input-Output tables to examine various aspects of imports and employment embodied in exports over the 1986-to-1995 period. It determines the value added to GDP embedded in the exports of over 550 specific commodities. Value added is the net contribution to output by an industry, after all the intermediate inputs from other industries are subtracted from its gross output. Because all inputs are tracked to their origin,

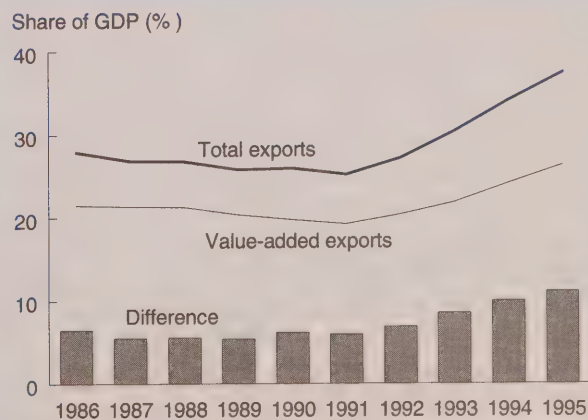
Adapted from an article in Canadian Economic Observer (Statistics Canada, Catalogue no. 11-010-XPB) 12, no. 11 (November 1999). Grant Cameron is with the Input-Output Division. He can be reached at (613) 951-3764 or camegra@statcan.ca.

the tables capture the direct and indirect contributions of various industries to exports. The value of the imports in these exports is the difference between the total value of the exports and the domestic GDP content. The GDP in exports can then be compared with total GDP to determine the degree to which Canadian incomes are dependent on foreign markets.

Consider automotive exports. The total GDP embodied in these trade flows includes the incomes earned in the automobile industry as a result of its exports (direct) plus the incomes earned in all other industries to the degree that their outputs support the production of automobiles destined abroad (indirect). The indirect effect includes all upstream activities; for example, it captures the incomes earned in mining the iron ore that ultimately finds its way into the chassis of exported cars.

In the first half of this decade, the share of exports in GDP rose from 25% to 38%. However, over one-third of this increase reflects the rising import content

Chart A: The share of GDP earned from exports rose steadily in the early 1990s.



Source: Input-Output Division

Chart B: Imports comprised almost one-third of the total value of exports in 1995.



Source: Input-Output Division

assembled computers) and electronic equipment (largely computer parts). These goods, with an import content averaging nearly 50%, accounted for 10% of all exports in 1995, up from 7% in 1986. The import content of the computer-driven components was especially large, up 20 percentage points in less than a decade. This reflects the adoption of new production processes, especially the use of imported parts in plants that have a mandate for global production for certain product lines from their parent company.

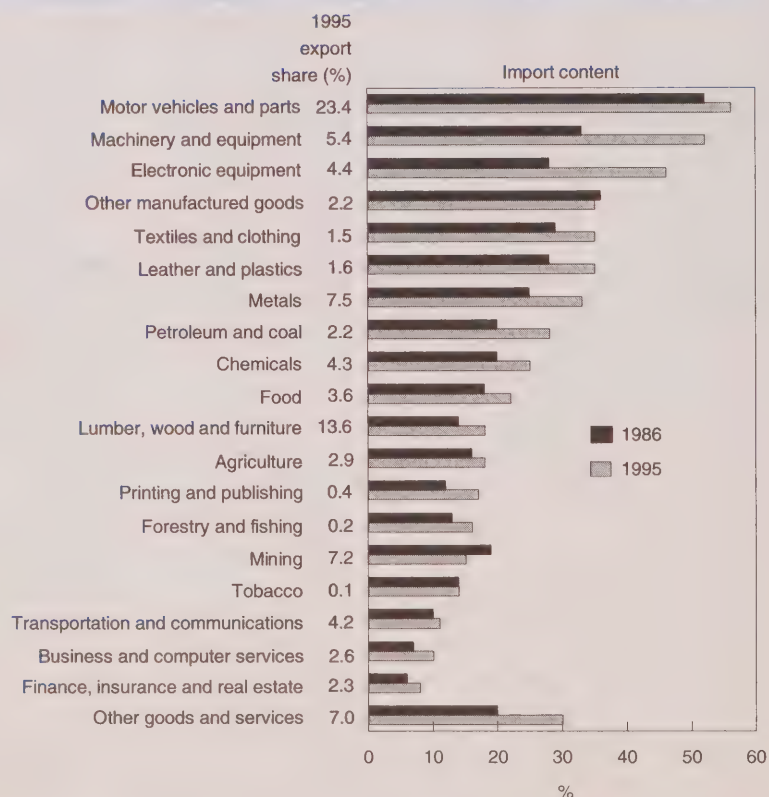
The specialization of labour implicit in these trade flows is also a key to understanding the role of exports in generating economic growth. Over the long run, export and import flows tend to track each other closely, leaving the share of net exports in GDP hovering around zero (Chart D). In fact, net exports have usually been noticeably greater than zero only in times of economic distress, such as the 1930s and the

in exports: excluding this, the value-added contribution of exports to GDP still rose, but from its low of 19% in 1991 to 26% in 1995, compared with its previous high of 22% in 1986 (Chart A).

The difference reflects increasing specialization in many industries. For example, the auto industry has long used many plants on both sides of the border to produce parts, which are then shipped to one central plant for assembly, from which the finished vehicles are sent across North America. The import content of exports rose steadily between 1987 and 1995: from 25% to 32% (Chart B).²

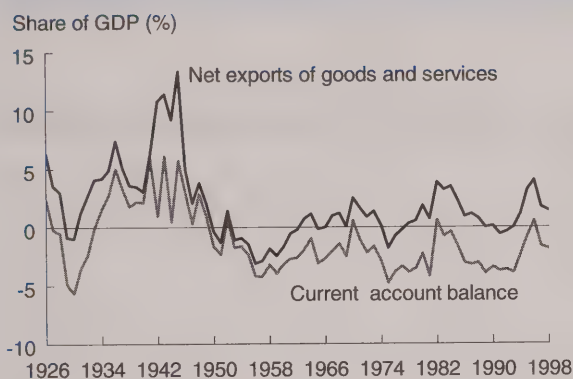
Increases in the import content of exports are evident for almost all export commodities. Seventeen of twenty export commodity groups saw their import content rise between 1986 and 1995—the only exceptions were mining, tobacco and other manufactured goods (Chart C). Moreover, the increase was strongest where export growth was strongest—machinery and equipment (mostly

Chart C: The top three export commodities had an import content around 50% in 1995.



Source: Input-Output Division

Chart D: The share of net exports in GDP hovers around zero.



Source: Input-Output Division

cyclical slowdowns in 1970 and 1982. Even then, the positive current account balance resulted from plunging domestic demand for imports, not from strength in exports.³

The importance of trade to the economy does not come from an excess of exports over imports; rather, it is from the productivity gains that accrue with increased specialization. In 1995, the value-added

output per worker was nearly one-third higher in the export sector than in the overall economy (Chart E). (The largest GDP per employee was in capital-intensive resources such as mining, chemicals, petroleum and lumber. With capital use factored in, however, their total multifactor productivity may not have been as high.) Moreover, this gap grew nearly 10 percentage points after 1991. As more resources are shifted to industries with above-average labour productivity (and incomes), overall GDP may rise. However, it is difficult to quantify this process, as the incremental changes to production occur at a highly detailed level, and because it is impossible to sort out other factors, notably technological change.

The total (direct plus indirect) number of jobs embodied in exports can be estimated in a similar fashion. It is derived by applying the industry-specific labour/output ratio (typically used in the calculation of labour productivity) to the direct and indirect levels of gross outputs in the corresponding industries.

Because of its high capital-intensity, output per employee is higher in the export sector, and its contribution to overall employment is less than to GDP. In 1995, 21% of all jobs, versus 26% of output, were directly or indirectly derived from exports. The gap between these shares had risen slightly since the start of the decade, reflecting the gains in output per employee in export industries.

Perspectives

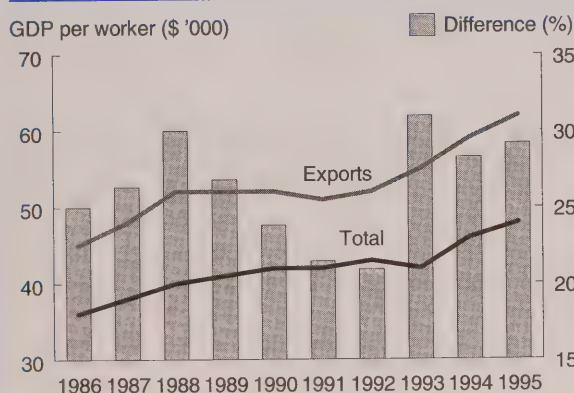
Notes

1 The share analysis of aggregate demand is in current dollars so that relative price shifts do not distort the data. Computer prices, for example, plunged over 50% between 1992 and 1995, so their share of the economy in constant dollars will change radically the next time the National Accounts base year is updated, making any analysis based on 1992 much less meaningful.

2 It was unusually high at 28% in 1986, when the collapse in oil prices boosted auto sales to a record that still stands. This industry has the highest import content.

3 Furthermore, developments in the current account often trigger changes in the capital account that may offset some or all of the current account effects. This is because deficits have to be financed and surpluses recycled abroad. These mechanisms are beyond the scope of this article.

Chart E: GDP per worker is nearly one-third higher in the export sector.



Source: Input-Output Division

What's new?

Recent reports and studies

■ UPCOMING RELEASE

■ *Survey of Household Spending*

The Public Use Microdata File (Catalogue no. 62M0004XCB, \$3,000) for the new Survey of Household Spending will be released soon. It will include 1997 data for household spending, household and dwelling characteristics and household facilities and equipment from the over 18,000 households in the sample. All records have been thoroughly screened to ensure the anonymity of respondents. Public-use microdata files for previous Family Expenditure Surveys are also available for the following years: 1969, 1978, 1982, 1984, 1986, 1990, 1992 and 1996. Public-use microdata files for previous Household Facilities and Equipment Surveys are available for 1982 and every survey year since 1984.

For more information or to order, contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; income@statcan.ca.

■ JUST RELEASED

■ *Manufacturing industries*

The latest publication based on the Annual Survey of Manufactures is now available. This survey collects information for approximately 35,000 manufacturing establishments grouped into 236 industries. The data provide a measure of manufacturing production and an indication of the well-being of each industry and its contribution to the economy.

The publication includes an analysis of the manufacturing industry and a feature article titled "The importance of exporters for Canadian manufacturers: A focus on small- and medium-sized establishments." It also includes tables on principal statistics (notably shipments, materials purchased and labour data) by industry, as well as tables of historical data (1970-1997), size ranking and establishment counts by employment size.

Manufacturing Industries of Canada: National and Provincial Areas, 1997 (Catalogue no. 31-203-XPB, \$68) is now available. The data are also available electronically on demand. For more information, contact Jean-Marie Houle, Manufacturing, Construction and Energy Division, at (613) 951-9497; fax: (613) 951-3522; manufact@statcan.ca.

■ *Government expenditures on culture*

In 1997-98, total spending on culture by all three levels of government was \$5.56 billion, down 2% from the previous year, and 5% lower than the peak in 1992-93. If inflation is taken into account, 1997-98 represents the eighth straight year that total government spending on culture has declined.

Municipalities continued to increase cultural spending, allocating \$1.48 billion in the 1997 calendar year, up 3% from the previous year. Federal cultural outlays were down 4% to \$2.67 billion in 1997-98, while provincial and territorial cultural spending fell just under 1% to \$1.72 billion.

Selected data from the Government Expenditures on Culture Survey are available in table format (Catalogue no. 87F0001XPB, \$50). Data from this survey are also available by province and territory. Users may request special tabulations on a cost-recovery basis.

For more information, or to enquire about concepts, methods or data quality, contact Norman Verma, Culture, Tourism and the Centre for Education Statistics, at (613) 951-6863; fax: (613) 951-9040; vermnor@statcan.ca.

■ *Health of Canadians*

The Statistical Report on the Health of Canadians was officially released by the federal, provincial and territorial ministers of health at a conference in Charlottetown, September 16, 1999.

The report draws primarily on results from the National Population Health Survey, as well as sources such as the National Longitudinal Survey on Children and Youth.

A section on health determinants explores social, economic and physical environments, health services, personal resources and coping, health knowledge, and lifestyle behaviours. A second section on health status examines individual well-being, general health and function, injuries, conditions and diseases, and death.

The Statistical Report on the Health of Canadians, 1999 (Catalogue no. 82-570-XIE) is now available free of charge on Statistics Canada's website (www.statcan.ca) under "Products and services," then "Downloadable publications (free)," then "Health." For more information, contact Larry Swain, Health Statistics Division, at (613) 951-8569; larry.swain@statcan.ca. For print copies of this report, call (613) 954-5995.

■ *Seniors in Canada*

In 1998, an estimated 3.7 million Canadians were aged 65 and over, a 57% increase from 1981. Seniors made up 12% of the total population in 1998, up from 10% in 1981 and just 5% in 1921. This population is expected to grow even more rapidly during the next several decades, particularly once baby boomers start turning 65 around 2011. By 2041, a projected 23% of the population will be 65 and over.

The latest edition of a report on seniors provides a comprehensive statistical profile of the population aged 65 and over, with details on family status and living arrangements, housing, health, education, income, and work and leisure patterns.

This 130-page publication was prepared, in part, to provide a database on seniors for the current International Year of Older Persons.

A Portrait of Seniors in Canada (third edition) (Catalogue no. 89-519-XPE, \$45) is now available. For more information on this report, or to enquire about concepts, methods or data quality, contact Colin Lindsay, Housing, Family and Social Statistics Division, at (613) 951-2603; fax: (613) 951-0387; lindcol@statcan.ca.

■ *A statistical profile of Canadian communities (enhanced version)*

Since its release in November 1998, "A statistical profile of Canadian communities" has been one of the most popular components of Statistics Canada's website. It offers a wealth of statistical information free of charge for close to 6,000 Canadian cities, towns, villages, and Aboriginal communities. A simple mapping feature allows users to pinpoint the community they are interested in. Information is given for four major topics: population, education, income and work, and families and dwellings.

The enhanced version adds another topic to the list: health. Under this section will be found the number of births and deaths in 1996 for every community.

Data will now also be available for large and not-so-large metropolitan areas—census metropolitan areas (CMAs) and census agglomerations (CAs).

Users can try the new enhanced version of “A statistical profile of Canadian communities” by accessing the “Census,” “Education resources,” or “Canadian statistics” module on the Statistics Canada website at www.statcan.ca. For more information, contact the nearest Statistics Canada Regional Reference Centre.

■ *Newsletter on business and trade*

Insights on... is a newsletter on trends in business and trade. It documents developments in Canadian industry and shows how businesses are responding to new challenges and opportunities. It also includes information on new products and services about businesses and industry available from Statistics Canada.

The September 1999 issue includes the article “Aboriginal entrepreneurs in Canada—progress and prospects,” which was compiled and recently published by Industry Canada using Statistics Canada data.

Insights on... (Catalogue no. 61F0019XIE, free) is now available on the Internet (www.statcan.ca) or on paper (Catalogue no. 61F0019XPE, \$40/\$100).

To order, or for more information on this publication, contact Jamie Brunet, Small Business and Special Surveys Division, at (613) 951-6684; fax: (613) 951-1572; jamie.brunet@statcan.ca.

■ *Computer technology in schools*

The majority of Canadian schools are connected to the Internet for educational purposes, according to a new survey on computer technology in the classrooms. The survey showed that despite some major strides, education systems face significant challenges as they attempt to take fuller advantage of new technologies.

At the time of this survey, more than 9 out of 10 students at the elementary, intermediate and secondary levels in Canada attended schools that had access to the Internet for educational purposes.

Data were drawn from the Second International Technology in Education Study (SITES), conducted in January and February 1999 in 30 nations, including Canada. This survey was designed to profile the use of new information and communication technology in elementary and secondary schools. Data are available by province and selected school type: those with Grade 5 (most elementary schools); those with Grade 9 or secondary III (most intermediate and junior high schools); and those with the last year of secondary (most high schools).

A more detailed publication, which will include a comprehensive series of statistical tables resulting from SITES, will be released early in 2000.

For tables or general inquiries, contact Sharon-Anne Borde at (613) 951-1503; fax: (613) 951-9040; bordsha@statcan.ca. For more information, or to enquire about concepts, methods or data quality, contact Raynald Lortie, Centre for Education Statistics, at (613) 951-1525; lortray@statcan.ca or Nanci Comtois at (613) 951-1740; comtnan@statcan.ca.

■ *The new E-STAT*

The 1999 edition of E-STAT is now available. Since 1992, this interactive learning tool has continually evolved to meet the changing needs of the education sector. The 1999 edition contains the latest data from the 1996 Census and a wide range of previous censuses, as well as updates from the CANSIM (Statistics Canada's Canadian Socio-economic Information Management System) database.

E-STAT 1999 also incorporates a number of features designed to make it more user friendly. Features include a quick user guide, a teachers handbook and lesson plans/teaching activities written by educators for educators.

E-STAT brings current statistical and demographic data about Canada into the classroom. Students learn how to develop critical thinking skills and to transform data into colourful, easy-to-read graphs and maps.

The Internet (Catalogue no. 10F0174XIB) and the CD-ROM Windows (Catalogue no. 10F0174XCB) versions of E-STAT are now available. For more information or to order, contact the nearest Statistics Canada Regional Reference Centre or consult Statistics Canada's website (www.statcan.ca) under "Education resources."

■ WHAT'S NEW IN INCOME STATISTICS?

■ *Earnings of two-partner families*

The final Survey of Consumer Finances report, *Characteristics of Dual-earner Families in 1997*, is now available. This publication presents the latest profile of two-partner families, according to the earnings status of each spouse.

It includes distributions, estimated numbers and average incomes for 1967 to 1997. Tabulations for 1997 provide average family income by province of residence, composition of family income by source, distributions of families by characteristics of spouses (such as age, education, immigration status, mother tongue, and presence of children) and distributions, spousal earnings and average family income by earnings groups, work and unemployment experience, job tenure and occupation of spouses.

Historical data on average income of two-partner families by earnings status of spouses are available free on Statistics Canada's website (www.statcan.ca). The menu path is "Canadian statistics," then "The people—Families, households and housing" followed by "Income."

Characteristics of Dual-earner Families in 1997 (Catalogue no. 13-215-XIB, \$21) is now available.

■ *SLID, 1993-1997*

The longitudinal Survey of Labour and Income Dynamics (SLID) builds a picture of Canadians' jobs, income changes and family events over time. The same people are interviewed from one year to the next to capture both personal and labour

market changes. About 35,000 people of all ages were selected in 1993 and interviewed each year from 1994 to 1997 to gather information on their demographic characteristics, family income and labour market activities. In 1996, an additional 35,000 individuals joined the sample.

Previous SLID data and analyses were released in April 1996 (Life events: How families change); June 1996 (Transitions in the labour force); July 1997 (Crossing the low-income line); June 1998 (Moving out of low paid work) and March 1999 (Encountering low income). Many other studies have been conducted using SLID data. Results from the fifth wave are now available through custom tabulations, and show labour market and family experiences covering a five-year period from 1993 to 1997.

■ *Food Expenditure Survey*

Are you interested in doing in-depth analysis of the food spending patterns of Canadian households? For example, do you need to know what proportion of the budget is spent on various food categories by different types of households? Or which households purchase meals in restaurants and what kind of restaurants they favour?

The microdata file from the 1996 Food Expenditure Survey gives data users access to hundreds of detailed variables about food spending, the quantity of food purchased, and the type of store or restaurant where purchases occurred. Also included are several household demographic variables.

The public-use microdata file for the 1996 Food Expenditure Survey (Catalogue no. 62M0002XDB, \$1,500) is now available. Similar files based on the 1984, 1986, 1990 and 1992 surveys are also available. Analytical highlights are presented in *Family Food Expenditure in Canada* (Catalogue no. 62-554-XPB, \$52).

■ *Dwelling characteristics and household equipment*

Standard data tables on the dwelling characteristics and household equipment of households in 1997 are now available. The dwelling characteristics include the type of dwelling, whether repairs are needed, tenure (owned or rented), year of move, period of construction, number of rooms and bathrooms, and the age and type of heating equipment and fuel used. The household equipment includes a variety of household appliances, communications and entertainment equipment, and the number of vehicles owned.

The data are from the Survey of Household Spending which, starting with 1998 data, replaces the Household Facilities and Equipment Survey (conducted for the last time in 1997). The Survey of Household Spending also collects data about the complete range of household spending on consumer goods and services.

Five standard tables for dwelling characteristics and household equipment are now available for \$125 each: for Canada, provinces and territories, and selected metropolitan areas (Catalogue no. 62F0041XDB); by household income quintile (Catalogue no. 62F0042XDB); by housing tenure (Catalogue no. 62F0043XDB); by household type (Catalogue no. 62F0044XDB) and by size of area of residence (Catalogue no. 62F0045XDB). Similar tables based on expenditure data from the same survey are also available.

For more information about these surveys and related products and services, or to enquire about concepts, methods or data quality, contact Client Services, Income Statistics Division, at (613) 951-7355 or 1 888 297-7355; fax: (613) 951-3012; income@statcan.ca.

■ UPCOMING CONFERENCE

■ *Statistics Canada, Economic Conference 2000: Expanding Horizons: Canada in an International Context* *May 15-16, 2000, Ottawa*

While Canada's has always been an open economy, it is now more extensively and intricately linked to the rest of the world. Attention is drawn more than ever to how Canadian markets, programs and institutions compare with those of other countries. Statistics Canada's annual economic conference, to be held at the Ottawa Congress Centre, provides a forum for the exchange of empirical research by business, government, research centres and labour.

Speakers will address plenary sessions, comparing Canadian situations with those of other countries, and will speak on issues arising from international flows of all kinds. Topics will include income distributions, literacy levels, labour compensation, productivity, trends in self-employment, technological investment by industry, effect of e-commerce, effect of emerging technologies on transportation, "brain drain and gain," and immigrant entrepreneurs.

For more information, contact Jocelyne Lepage, Conference Co-ordinator, at (613) 951-1135; fax: (613) 951-4179; lepajoc@statcan.ca; or visit our website at www.statcan.ca/english/conferences/economic2000.

Perspectives

Key labour and income facts

Selected charts and analysis

This section presents charts and analysis featuring one or more of the following sources. For general inquiries, contact Joanne Bourdeau at (613) 951-4722 or bourjoa@statcan.ca.

Administrative data

Small area and administrative data
Frequency: Annual
Contact: Customer Services
(613) 951-9720

Business surveys

Annual Survey of Manufactures
Frequency: Annual
Contact: Richard Vincent
(613) 951-4070

Business Conditions Survey of Manufacturing Industries
Frequency: Quarterly
Contact: Claude Robillard
(613) 951-3507

Census

Census labour force characteristics
Frequency: Quinquennial
Contact: Michel Côté
(613) 951-6896

Census income statistics
Frequency: Quinquennial
Contact: Abdul Rashid
(613) 951-6897

Employment and income surveys

Labour Force Survey
Frequency: Monthly
Contact: Nathalie Caron
(613) 951-4168

Survey of Employment, Payrolls and Hours
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Help-wanted Index
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Employment Insurance Statistics Program
Frequency: Monthly
Contact: Sylvie Picard
(613) 951-4090

Major wage settlements
Bureau of Labour Information
(Human Resources Development Canada)
Frequency: Quarterly
Contact: (819) 997-3117
1 800 567-6866

Labour income
Frequency: Quarterly
Contact: Anna MacDonald
(613) 951-3784

Survey of Labour and Income Dynamics
Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Consumer Finances
Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

Survey of Household Spending (replaces Household Facilities and Equipment Survey and Family Expenditure Survey)
Frequency: Annual
Contact: Client Services
(613) 951-7355 or
1 888 297-7355

General Social Survey

Education, work and retirement
Frequency: Occasional
Contact: Client Services
(613) 951-5979

Social and community support
Frequency: Occasional
Contact: Client Services
(613) 951-5979

Time use
Frequency: Occasional
Contact: Client Services
(613) 951-5979

Pension surveys

Pension Plans in Canada Survey
Frequency: Annual
Contact: Thomas Dufour
(613) 951-2088

Quarterly Survey of Trusteed Pension Funds
Frequency: Quarterly
Contact: Bob Anderson
(613) 951-4034

Special surveys

Survey of Work Arrangements
Frequency: Occasional
Contact: Ernest B. Akyeampong
(613) 951-4624

Adult Education and Training Survey
Frequency: Occasional
Contact: Cathy Oikawa
(613) 951-3103

Graduate Surveys (Postsecondary)
Frequency: Occasional
Contact: Bill Magnus
(613) 951-4577

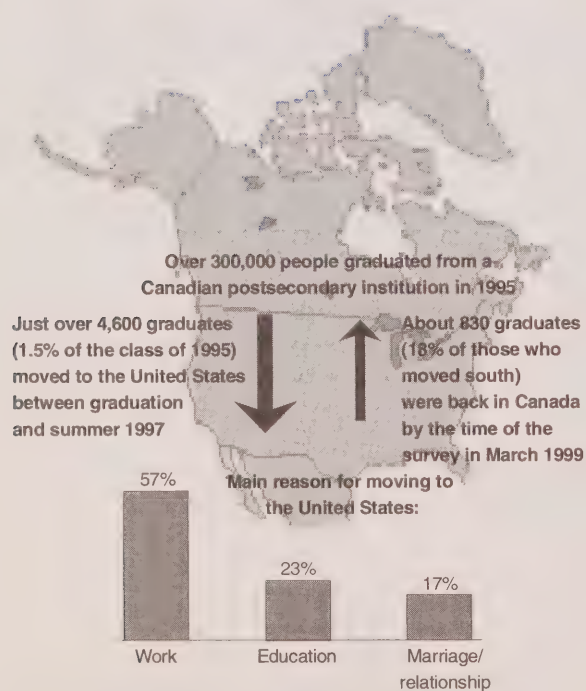
South of the Border—Graduates from the Class of '95 Who Moved to the United States

Concern over the movement of skilled workers to the United States is not new. For a variety of reasons, however, the issue of the “brain drain” to the south has been receiving a great deal of attention in the late 1990s. The demand for highly educated and skilled workers on both sides of the border has grown considerably, especially in the thriving U.S. economy.

The period of fiscal restraint that characterized much of the mid- to late-1990s in Canada may also

have encouraged some people—nurses, for example—to look south for opportunities. In addition, the North American Free Trade Agreement has provided a mechanism for many Canadians to enter the United States as temporary workers. Also, some have argued that current differences in personal income tax and currency exchange rates have made this option more attractive to Canadians.

Flow of postsecondary graduates from the class of 1995



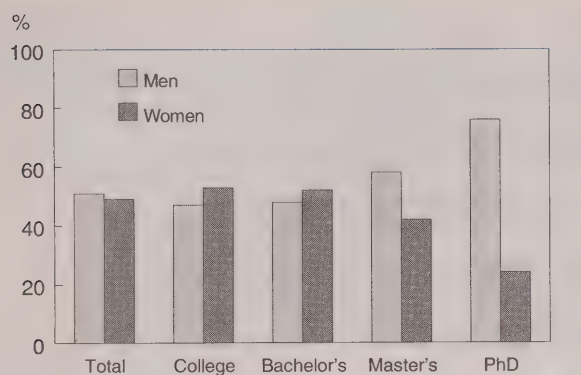
Source: Survey of 1995 Graduates Who Moved to the United States

The movement of 1995 graduates to the United States was relatively small. Only 1.5% of the more than 300,000 men and women who graduated from a Canadian postsecondary institution in 1995 moved to the United States between graduation and the summer of 1997.

In addition to economic forces, social factors played a compelling role in motivating some people to move. More than half the 1995 graduates who relocated (57%) did so mainly for work, and another 23% for education purposes. But about 17%, the majority of whom were women, relocated for marriage or relationships.

By March 1999, about 830 or 18% of the graduates had returned to Canada. Of these, one-half (52%) reported having done so for work-related reasons. Another 38% moved back for marriage or relationship reasons, or other family-related reasons.

Graduates who moved to the United States, by sex and level of study

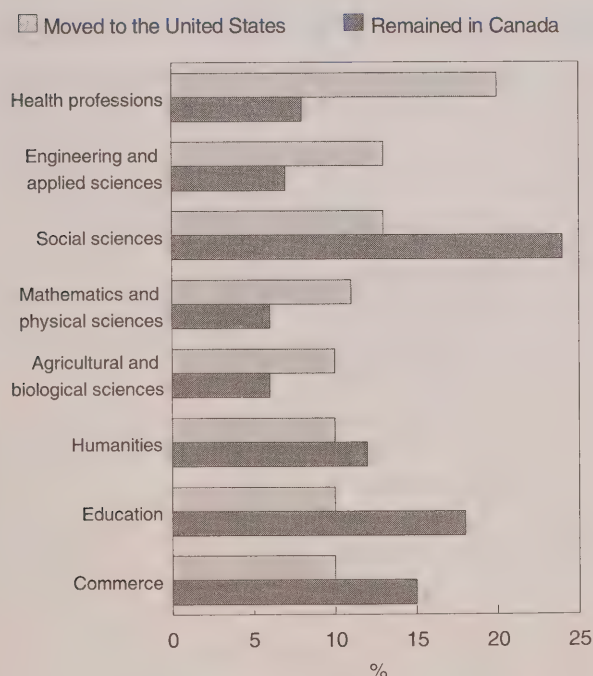


Source: Survey of 1995 Graduates Who Moved to the United States

Just over 4,600 graduates of the Class of 1995 moved to the United States between graduation in 1995 and the summer of 1997. Women accounted for one-half of these graduates (and 57% of those who remained in Canada). However, when health graduates (primarily female nurses) are excluded, the majority of those who relocated were men (62%).

Among the graduates who moved, women and men were more or less equally represented at the college level (53% and 47%, respectively) and at the bachelor's level (52% and 48%). However, men were more strongly represented at the master's and PhD levels: 58% and 76%.

Distribution of 1995 university graduates, by field of study



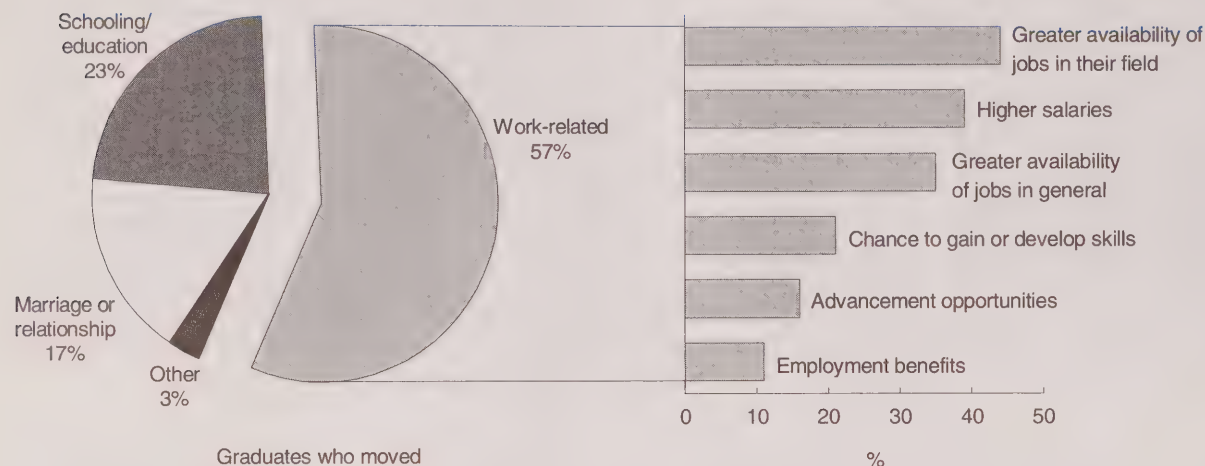
Sources: Survey of 1995 Graduates Who Moved to the United States and 1997 National Survey of 1995 Graduates

Health graduates represented 20% of all university graduates who moved to the United States but only 8% of those who remained in Canada. Graduates in engineering and applied sciences were the next largest group of graduates who moved (13%). They accounted for just 7% of those who stayed in Canada. Social sciences graduates accounted for another 13% of graduates on the move and 24% of those who remained.

Of the engineering and applied sciences graduates who moved to the United States, 93% were men. Men also accounted for 72% of mathematics and physical sciences graduates who moved. Women, however, made up 82% of university health graduates on the move. These percentages were similar to, though slightly higher than, those observed for graduates who stayed in Canada.

Most (54%) of the *college* graduates (not shown in chart) who moved were in health-related fields of study. Some 71% of these were women. Only 15% of the graduates who stayed in Canada were health graduates from college programs. The majority of health graduates who moved were nurses.

Factors that drew graduates south



Source: Survey of 1995 Graduates Who Moved to the United States

Note: Multiple responses were allowed.

Although men and women were equally likely to have moved for work-related reasons, most who moved because of education were men (84%). (Men accounted for 51% of the 1996-97 enrolments in Canadian universities.)¹ Meanwhile, women accounted for most (86%) of those who reported moving for marriage or relationship reasons.

Both PhD and college graduates were most likely to have moved for work-related reasons: some 80% of both categories did so. In contrast, only 43% of those with bachelor's degrees, the most numerous group of 1995 graduates on the move, relocated because of work. One-third of the bachelor's graduates (33%) moved for education-related reasons. Another 22% did so for marriage or relationship reasons.

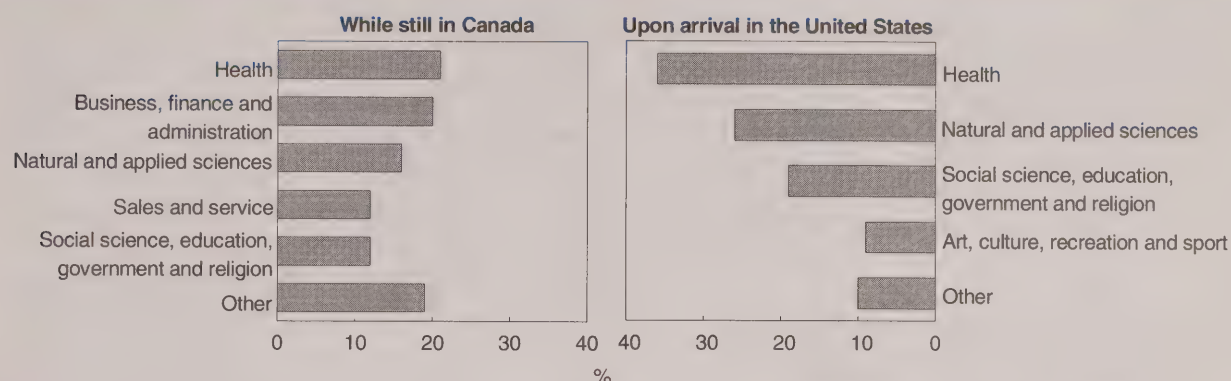
Graduates who reported work as their main reason for moving to the United States were asked a more detailed question about the factors that had attracted them. *Opportunity* was the most common theme. Greater availability of jobs in a particular field or industry was cited by 44%. In addition, 35% mentioned greater availability of jobs in general, while 21% noted the chance to gain or develop skills and 16% cited better career advancement opportunities.

Better compensation was another theme. Some 39% mentioned higher salaries in the United States. Also, 11% noted that better employment benefits had drawn them south.

Only an insignificant proportion of graduates explicitly mentioned *lower taxes* as a factor in their decision to move. This consideration may have been implicit in the discussion of higher salaries, however. Also, differences in Canadian and U.S. personal income tax rates tend to be smaller at lower income levels. At this early stage in their careers, many of these graduates may have been most concerned with finding an opportunity in their field.

¹ This information is from Statistics Canada's Centre for Education Statistics.

Occupations of graduates

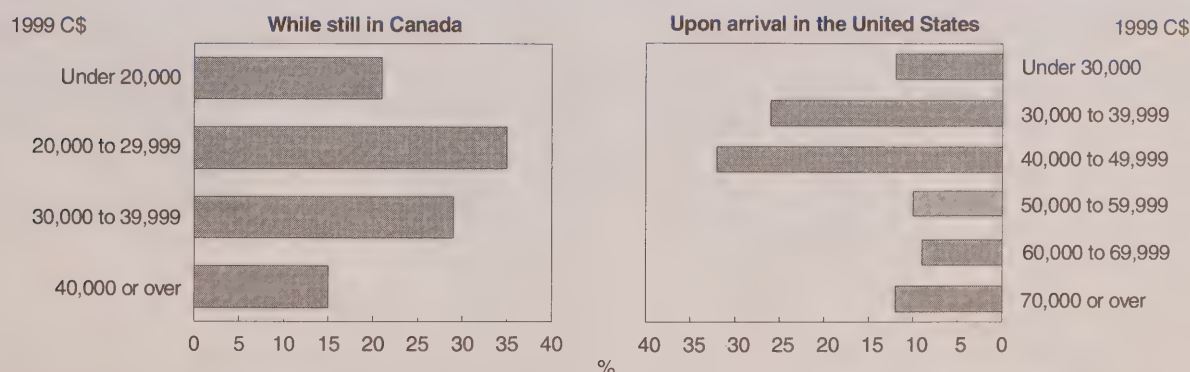


Source: Survey of 1995 Graduates Who Moved to the United States

Graduates with jobs waiting for them tended to have found different lines of work. For example, they were far less likely to remain in business, finance and administration occupations or in sales and service jobs.

Instead, they became even more concentrated in health occupations (36%), natural and applied sciences (26%), and social science, education, government and religion (19%).

Annual earnings of working graduates

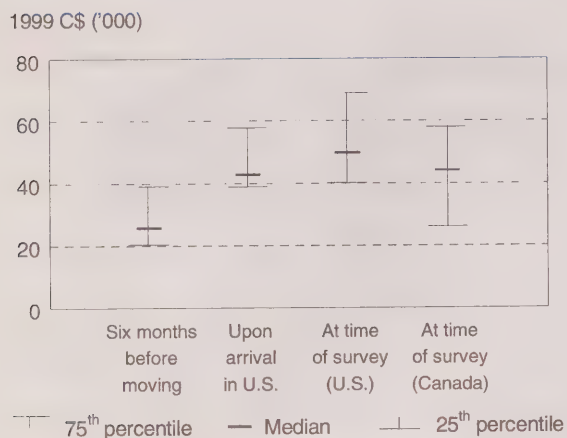


Source: Survey of 1995 Graduates Who Moved to the United States

Graduates with prearranged jobs also earned higher salaries than they had in Canada. A markedly smaller proportion earned under \$30,000 (12% versus 56%). At the higher end of the pay scale, nearly two-thirds (63%) earned \$40,000 or more upon arrival in the

United States. Only 15% had done so while employed in Canada. To some extent, this may reflect a predictable shift from transitional and student jobs to more career-related positions.

Annual earnings of working graduates over the survey period

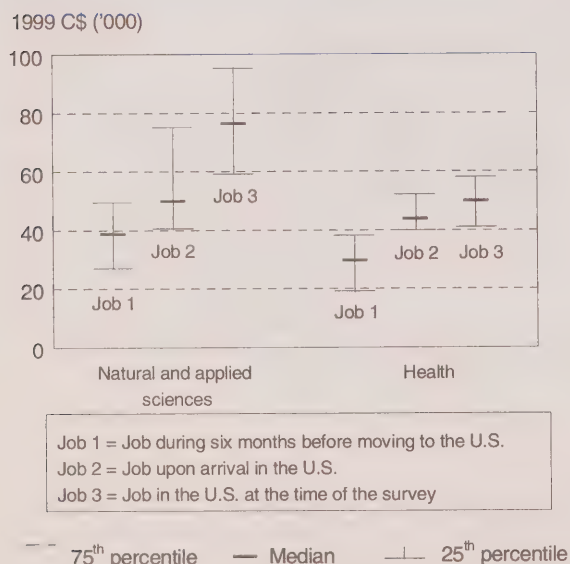


Source: Survey of 1995 Graduates Who Moved to the United States

The salaries of working graduates rose significantly after their move to the United States. If inflation and purchasing power parity are taken into account, median annual earnings of new arrivals were \$42,900, (Canadian dollars), up considerably from the \$25,600 earned by these graduates while still in Canada.

The American salaries continued to increase. By March 1999, the median salary had reached \$50,000. Graduates who had returned to jobs in Canada were earning \$44,200.

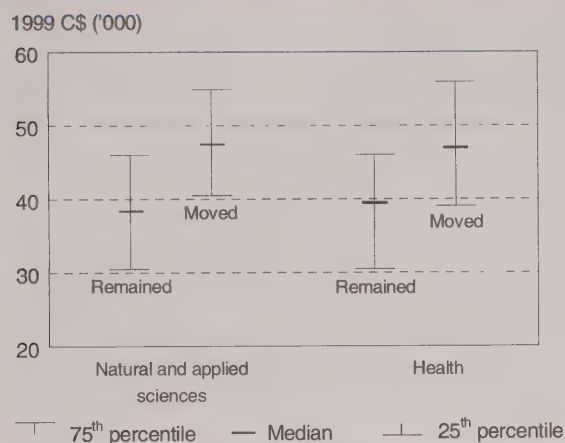
Annual earnings of working graduates over the survey period, in natural and applied sciences, and health occupations



Source: Survey of 1995 Graduates Who Moved to the United States

At the time of the survey, graduates working south of the border in natural and applied sciences occupations had the highest salaries. Largely scientists, engineers, computer systems analysts and programmers, this group was earning a median annual salary of \$76,300 by March 1999.

Initial earnings of working bachelor's graduates in natural and applied sciences, and health occupations

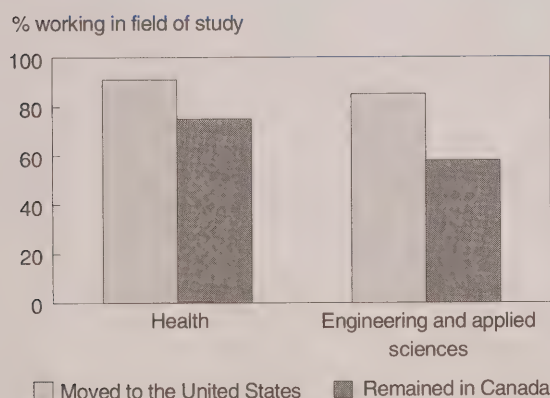


Sources: Survey of 1995 Graduates Who Moved to the United States and 1997 National Survey of 1995 Graduates

Salaries were immediately higher for graduates who relocated. This difference was greatest among college graduates, whose median annual salary upon arrival in the United States was \$42,600, significantly higher than the \$24,200 median for those who remained in Canada. At the bachelor's level, the median salary was \$43,400 for those who moved and \$30,500 for those who remained in Canada.

Median annual earnings of bachelor's graduates in applied and natural sciences jobs were \$47,400, considerably higher than the \$38,400 median among their counterparts in Canada. The gap for graduates in health occupations was similar.

Graduates working in their field of study



Sources: Survey of 1995 Graduates Who Moved to the United States and 1997 National Survey of 1995 Graduates

Those working in the United States seemed also to enjoy a better job-education match. For example, 91% of health graduates who moved south were working in health occupations upon arrival. This was the case for only 75% who remained in Canada. A similar pattern was evident for those who graduated in engineering and applied sciences.

About the survey

Statistics Canada, in partnership with Human Resources Development Canada, conducted the Survey of 1995 Graduates Who Moved to the United States (SGMUS) in March 1999. The survey covered postsecondary graduates from the Class of 1995 who moved to the United States between graduation and the summer of 1997. American citizens who returned home after studying in Canada

were not included. Interviews with 531 of the just over 4,600 graduates who moved to the United States provided information on their characteristics, reasons for relocating, education and work experiences, and plans for the future. The movement of graduates to other countries, or that of foreign students and graduates to Canada, was beyond the scope of the survey.

Charts and text were adapted from *South of the Border—Graduates from the Class of '95 Who Moved to the United States*. Ottawa: Human Resources Development Canada and Statistics Canada, 1999. (Statistics Canada Catalogue no. 81-587-XIE.)

For more information, contact Jeff Frank, Policy Research Secretariat, at (613) 947-3905; fax (613) 995-6006; j.frank@prs-srp.gc.ca. The publication is available on the Internet at www.hrdc-drhc.gc.ca/arb.

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1989–1999

This index lists articles published in Perspectives since its inception. It is updated quarterly (available as a PDF file) and published in the Winter issue.

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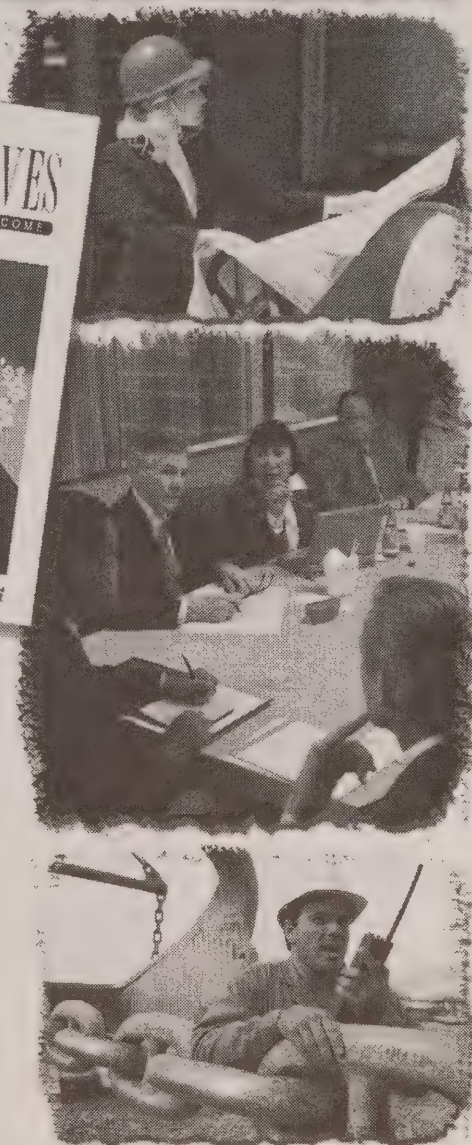
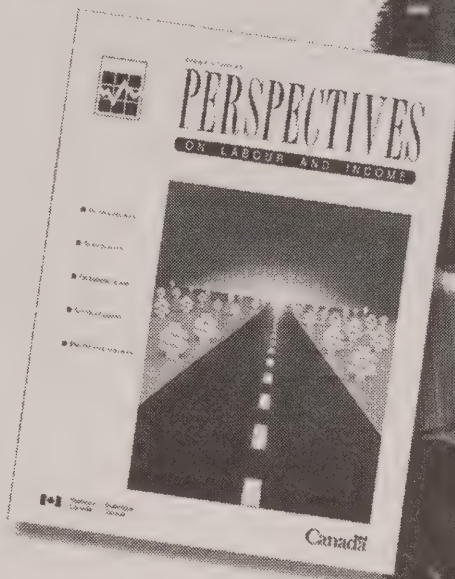
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Retrospective



Unionization in Canada: A retrospective

Supplement

Catalogue no. 75-001-SPE

Summer 1999

HIGHLIGHTS

- Canada's unionization rate edged up slightly to 32.3% in 1995 from 32.1% in 1994. This advance marks a reversal in the downward trend that began in 1991.
- Between 1966 and 1995, women's unionization rate almost doubled, from 15.9% to 30.0%. The rate for men fell slightly during the same period, from 38.4% to 34.4%. The 1995 figures mark the highest level of unionization for women and the lowest for men since these rates were first recorded in accordance with the *Corporations and Labour Unions Returns Act* (CALURA).
- The decline in men's union membership and rates can be traced in part to the shift of employment from the heavily unionized male-dominated goods-producing industries to the less unionized service industries.
- The rise in women's union membership and rates over the years can be attributed to several factors. Among the most important are the growing share of women in the heavily unionized public sector; increasing presence of women in some heavily unionized male-dominated industries; union inroads into less unionized female-dominated service industries; and increased unionization among part-time workers.
- International unions have lost their influence over the years. In 1962, almost 7 in 10 union members in Canada belonged to an international union; by 1995 the number had fallen to less than 3 in 10.
- Larger unions (50,000 or more members) are the norm now. In 1966, they numbered only 4, and they accounted for 22% of total union membership. By 1995, the number had risen to 18, and represented 55% of total membership.

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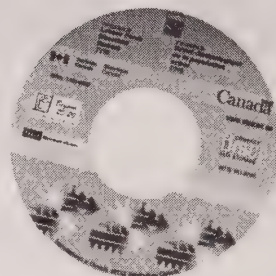
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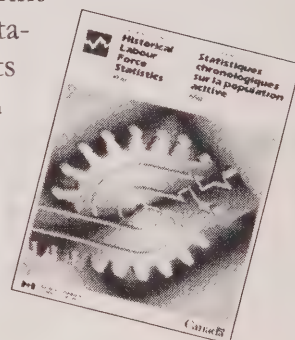
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Unionization in Canada: A retrospective

Diane Mainville and Carey Olineck

Foreword

The *Corporations and Labour Unions Returns Act* (CALURA), passed by Parliament in April 1962, is administered by the Chief Statistician of Canada under the authority of the Minister of Industry. The purpose of the Act is to collect financial and other information on the affairs of certain corporations and labour unions carrying on activities in Canada, and to evaluate the extent and effect of non-resident ownership and control of corporations in Canada, as well as the extent and effect of the association of Canadians with international labour unions.

With respect to labour unions, the Act, as amended in July 1981, now applies to every international and national labour union of 100 or more members resident in Canada, with a local union or branch in Canada, and carrying on activities in Canada independently of any other labour union.

When CALURA was introduced in 1962, public interest in labour organizations was high. At that time, international unions accounted for over two-thirds of total Canadian union membership. Since then, their share of union membership in Canada has declined considerably: at 28.9% in 1995, it was less than half its original level.

Today, public interest in labour unions has shifted to other questions, such as their effect on wage rates and working conditions. To accommodate these interests, in January 1997 Statistics Canada's redesigned Labour Force Survey began collecting data on union membership on a monthly basis. As a result, it is now possible to undertake more detailed analysis of demographic and other characteristics of union members. From 1997 onward, statistics relating to labour unions are available from the Labour and Household Surveys Branch.

This publication summarizes labour union membership statistics for 1995, the latest year for which CALURA data are available. It reviews some of the major trends that have taken place in the Canadian economy and labour market over the past three decades, and briefly examines how these changes may have affected union membership and rates by sex.

Krishna Sahay,
Corporations and Labour Unions Returns Act
Administration

This study was prepared by Diane Mainville, while on assignment at Statistics Canada from the Canadian Transportation Agency, and Carey Olineck, Industrial Organization and Finance Division, Statistics Canada. (Mr. Olineck can be reached at [613] 951-2653.)

Union membership and rates in 1995

Note: Unionization rates in this publication are calculated using paid workers, who comprise employees and working owners of incorporated businesses.

Through the collective bargaining process, labour unions play a significant role in the Canadian economy. Their activities affect wages and prices, as well as the volume and flow of production. Unions negotiate contracts that directly affect nearly 4 million members and indirectly influence the working conditions of all Canadian workers.

In 1995, labour union membership stood at 3.9 million, up by 1.7% from 1994. Men's union membership increased for the first time in six years (by 1.1%) to reach 2.2 million. Women's membership also continued its steady climb (2.5%). From 1962 to 1995, the number of female union members increased from 233,200 to 1.7 million, a seven-fold increase. With their stronger growth, women's share of total union membership almost tripled, rising from 15.4% in 1962 to 42.7% in 1995 (Chart A).

In 1995, the ratio of union members to total paid workers, the unionization rate, rose slightly for the first time in four

years, reaching 32.3%. The increase was the result of a relatively strong growth in union membership, 1.7% in 1995, in contrast to the change in the number of paid workers (0.4%).

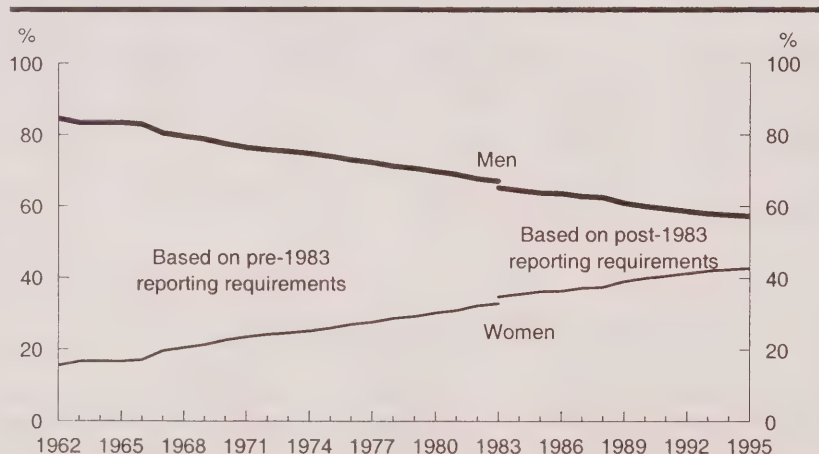
The unionization rate among women increased by 0.7 percentage points, to stand at 30.0% in 1995. In comparison, men's rate declined slightly by 0.1 percentage point to 34.4%. The decrease among men was driven by the failure of union membership to keep pace with their growth in employment. The increase among women resulted from a growth in union membership that outpaced that of employment.

Profile by industry

In 1995, community, business and personal service industries had the greatest share of total union membership (38.0%) (Table). Government services was a distant second with 16.7% of total union members, followed by manufacturing with 15.5%.

Community, business and personal services also accounted for the largest share of female union members in 1995 (59.0%). Government services was next, with 17.6%. In comparison, community, business and personal services vied with manufacturing for the largest share of male union members (22.1% and 21.7%, respectively).

Chart A: Women have assumed a growing share of union membership since 1962.



Source: CALURA

Note: Series break was due to CALURA amendments implemented in 1983.

Table: Distribution of union membership by industry, 1995

Industry	Both sexes		Men		Women	
	'000	%	'000	%	'000	%
Industry	3,858.5	100.0	2,201.9	100.0	1,656.5	100.0
Primary *	73.0	1.9	67.1	3.1	5.9	0.4
Manufacturing	597.5	15.5	478.3	21.7	119.2	7.2
Construction	307.8	7.9	298.6	13.6	9.2	0.6
Transportation, communication and other utilities	494.0	12.8	359.4	16.3	134.6	8.1
Trade	248.5	6.4	150.0	6.8	98.5	5.9
Finance, insurance and real estate	30.6	0.8	11.1	0.5	19.5	1.2
Community, business and personal services	1,464.5	38.0	486.9	22.1	977.6	59.0
Government services	642.6	16.7	350.5	15.9	292.1	17.6

Source: CALURA

* Agriculture; forestry; fishing and trapping; and mines, quarries and oil wells.

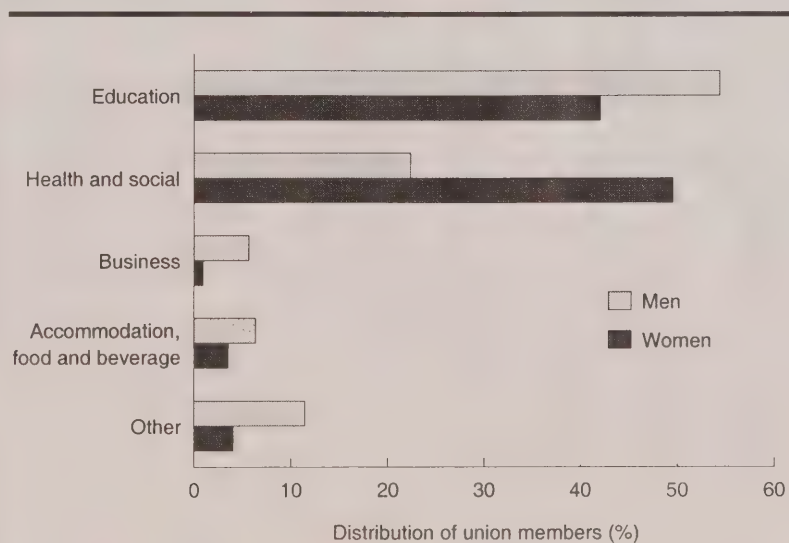
One major difference between men's and women's union membership is their distribution by industry. While women are concentrated primarily in community, business and personal services, men are more evenly distributed, making up the majority of union membership in every industry except finance, insurance and real estate, and community, business and personal services (Table).

Within community, business and personal services, union members are heavily concentrated in two industries: education, and health and social services. In 1995, these two accounted for 91.5% of female union members in this group and 76.6% of male union members (Chart B).

Major industries recording high overall rates of unionization in 1995 were government services (82.9%); construction (56.2%); and transportation, communication and other utilities (52.2%) (Chart C).

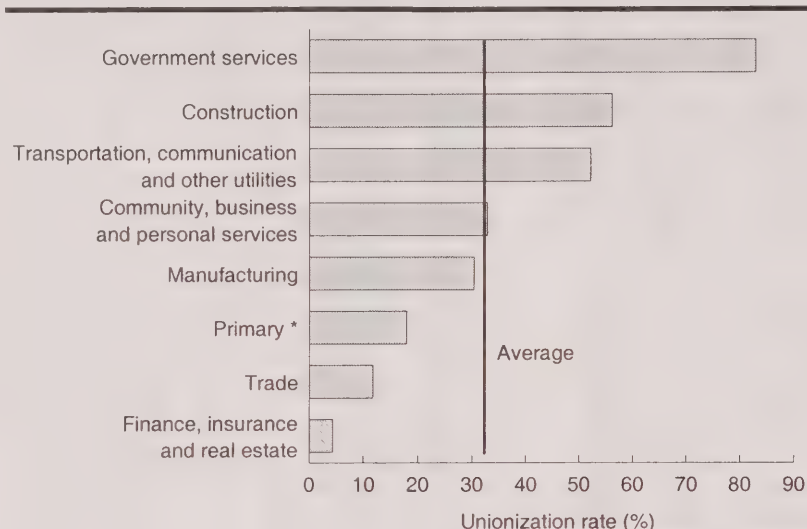
Except for government services, most major industries experienced little change in their unionization rates from 1994 to 1995. Government services' unionization rose by 7.2 percentage points, mostly because of a substantial decline in employment without a corresponding drop in union membership.

In 1995, government services showed the highest unionization rate for women (86.1%);

Chart B: Most union members in community, business and personal services are in education, and health and social and social services.

Source: CALURA, 1995

Chart C: Government services had the highest unionization rate in 1995.



Source: CALURA

* Agriculture; forestry; fishing and trapping; and mines, quarries and oil wells.

With an increase of 7.5% from 1994 to 1995, Saskatchewan experienced the highest increase in union membership. Except for New Brunswick, the Atlantic provinces each experienced a decrease.

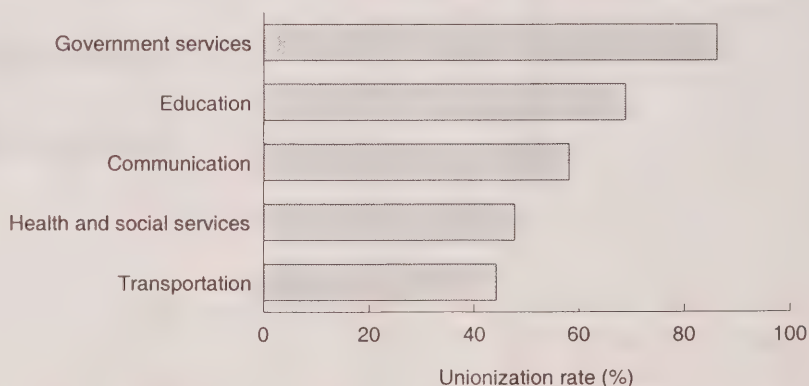
From 1994 to 1995, the unionization rate fell in half the provinces (Newfoundland, Prince Edward Island, Nova Scotia, Quebec and Alberta). With the highest unionization rate for both men (62.7%) and women (40.9%), Newfoundland stood first among provinces at 52.3% in 1995 (Chart F). At the other end of the spectrum, with the lowest unionization

education was second at 68.8% and communication third at 58.1% (Chart D). For men, the most highly unionized industries were government services (80.4%), education (72.1%) and construction (62.5%) (Chart E).

Profile by province

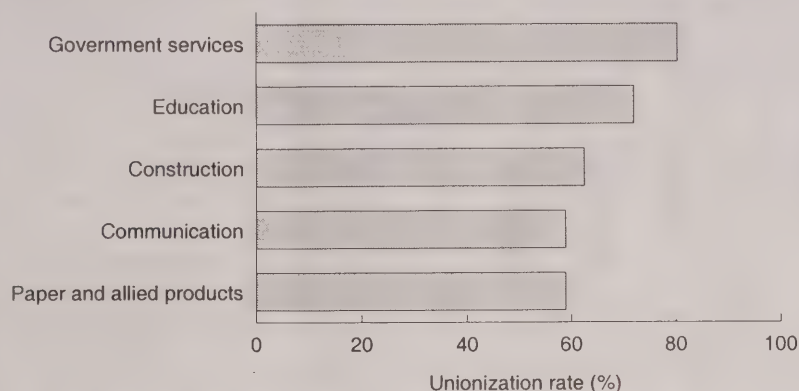
Union membership is concentrated in four provinces. Ontario, Quebec, British Columbia and Alberta accounted for 85% of all union members in 1995. None of the remaining provinces had more than 5% of total union membership.

Chart D: In 1995, the five industries with the highest unionization rates for women accounted for over three-quarters of female union members.



Source: CALURA

Chart E: In 1995, the five industries with the highest unionization rates for men accounted for less than half of male union members.



Source: CALURA

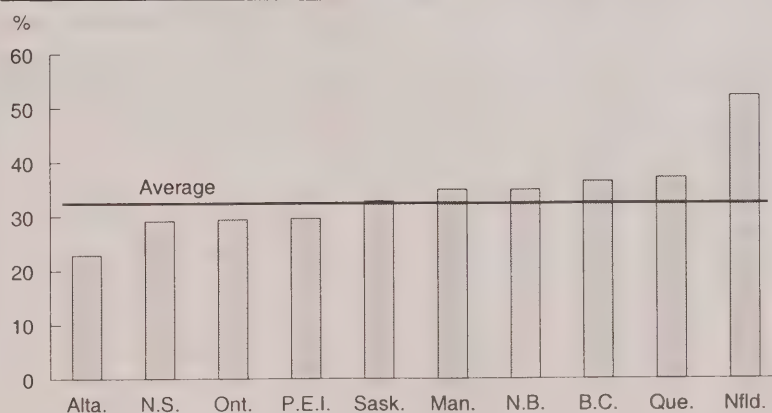
History of unionization in Canada

While unions continue to be important actors in the Canadian economy, the overall unionization rate has fallen slightly since the mid-1960s. This decline, however, masks important changes in the labour union movement in the past three decades. Labour unions once drew the majority of their membership from the goods-producing industries, especially manufacturing. In the 1990s, more and more union members are employed in service-producing industries such as health and social services.

rate for both men (21.7%) and women (24.4%), Alberta recorded the lowest overall rate at 22.9%.

The provincial ranking of unionization rates did not change significantly between 1984 and 1995. Newfoundland has historically been the most unionized province, followed by Quebec. Alberta has been the least unionized province, at less than half Newfoundland's rate. Unionization rates for women rose in all provinces except New Brunswick, while those for men fell everywhere except Prince Edward Island and Manitoba (Chart G).

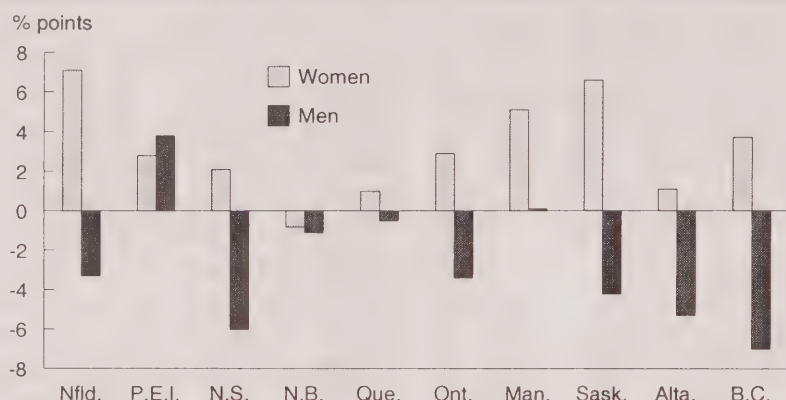
Chart F: In 1995, unionization rates were highest in Newfoundland.



Source: CALURA

Note: Unionization rates for the Northwest Territories and Yukon are not available.

Chart G: Women's unionization rate fell in only one province from 1984 to 1995; men's dropped in all but two.



Source: CALURA

Note: Unionization rates for the Northwest Territories and Yukon are not available.

A second major change has been the growing participation of women in the labour union movement. From the mid-1960s on, female union membership grew rapidly and women's share of total union membership almost tripled.

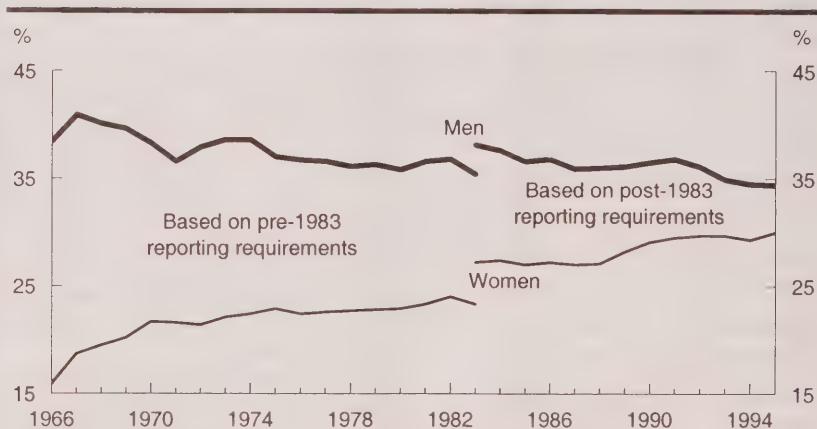
The third significant change has been the divergence in the unionization rates of men and women. While women's rate almost doubled between the mid-1960s and 1995, men's declined slightly (Chart H).

These changes in the labour union movement are related, in part, to a structural shift in the economy and to changes that have taken place in the labour market. As in other industrial-

ized nations, the Canadian economy has been moving from an emphasis on goods manufacturing and natural resources

extraction to a focus on service provision. This change has affected men's union membership and rates more strongly and negatively than it has women's. In comparison, women are well represented in industries that have recorded some increases in union rates; for example, finance, insurance and real estate; trade; and accommodation, food and beverage services. Also, they have increased their share of the labour force, particularly in the heavily unionized public sector. Finally, the labour market has increased its reliance on part-time workers, most of whom are women. These part-time positions are more likely to be unionized than they once were.

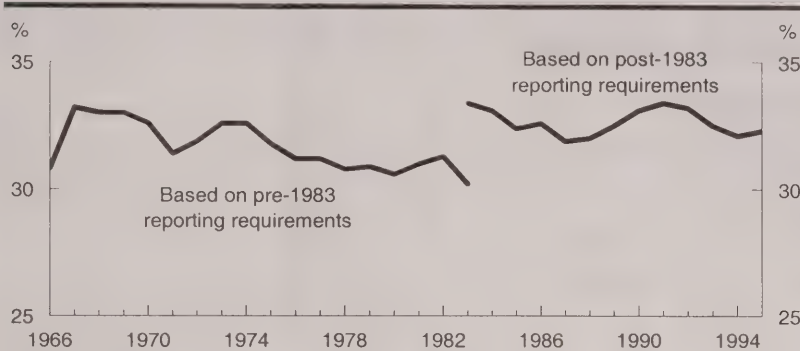
Chart H: In contrast to men, women have become increasingly unionized.



Source: CALURA

Note: Series break was due to CALURA amendments implemented in 1983.

Chart I: After declining for three years, Canada's unionization rate rose slightly in 1995.



Source: CALURA

Note: Series break was due to CALURA amendments implemented in 1983.

From 1966 to 1983, the overall rate of unionization fluctuated downward from a high of 33.2% in 1967 to a low of 30.2% in 1983 (Chart I). In 1983, the CALURA survey was expanded to include professional organizations such as teachers federations and nurses associations. Because these workers are more unionized than workers in general, unionization rates after 1983 were higher, causing a break in the series. After the change in the reporting requirements, the unionization rate continued to fall during the early 1980s, rising again by the end of the decade. From 1991 to 1994, the rate fell each year. In 1995, the unionization rate rose slightly for the first time in four years, to 32.3%.

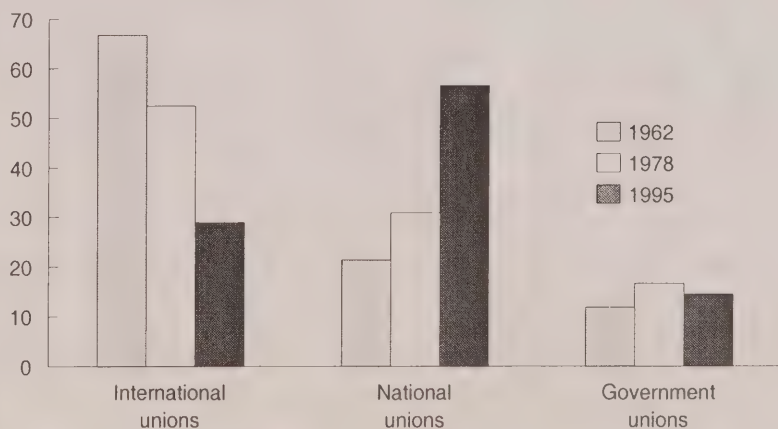
National versus international unions

One of the objectives of CALURA was to evaluate the extent and effect of international unions (those with head-

quarters outside Canada). When CALURA was introduced in 1962, international unions accounted for over two-thirds of total union membership in Canada. However, since that time, with the exception of 1964, 1965 and 1972, their share of total membership has declined each year. As a result, at 28.9% in 1995, international unions' share of total membership in Canada was less than half the original level (Chart J). Part of the decline was brought about by a shift in membership from international to national unions (those with headquarters in Canada) and by the creation of new autonomous national unions. As international unions dropped in importance, national unions' share of membership increased from 21.4% in 1962 to 56.7% in 1995.

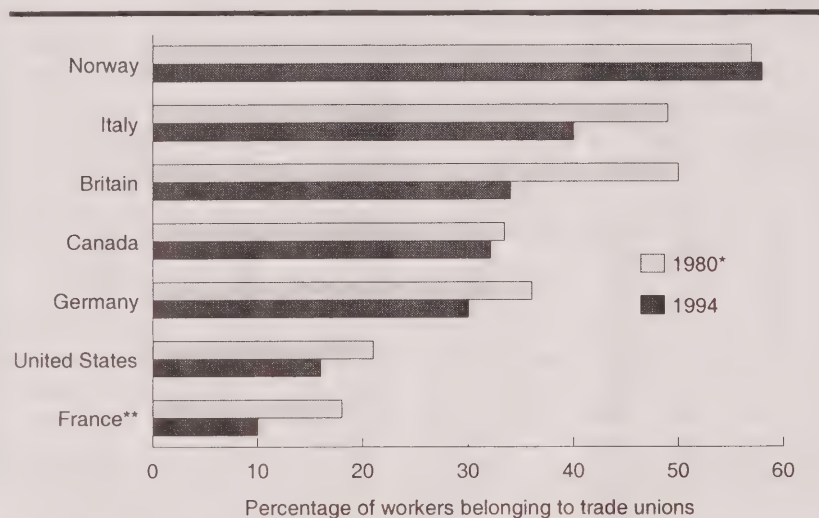
Chart J: National unions gained significant ground in the past three decades.

Share of union membership (%)



Source: CALURA

Chart K: Canada occupies the middle ground in terms of unionization.



Source: The Economist (July 12, 1997)

* For Canada, 1983 figures are used because of the 1983 series break.

** In France, almost all employees (95% in 1994) were covered by collective agreement but only a small percentage (9%) were actually union members.

Union membership by union size

From 1966 to 1995, the number of unions operating in Canada almost tripled, increasing from 173 to 502. At the same time, the share of union membership accounted for by large unions (50,000 or more members) also increased. In 1966, four unions had 50,000 or more members and accounted for 21.8% of total union membership. By 1995, 18 large unions represented over half (2.2 million) of the 3.9 million union members in Canada. In 1995, the largest union was the Canadian Union of Public Employees (CUPE). With 471,000 members, CUPE was more than twice the size of

the next largest union in Canada, the Canadian Auto Workers Association, with 224,000 members.

International comparisons

The downward trend in the Canadian unionization rate appears to be part of a much larger global trend: many other industrialized countries have also experienced a decline in unionization rates (Chart K). Canada has not seen as sharp a decline as some, occupying the middle ground. In addition, its unionization rate remains almost twice that of its largest trading partner, the United States.

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Appendix

Table 1: Union membership and locals by type and affiliation

Type and affiliation	Labour organizations			Membership in Canada			Locals		
	1993	1994	1995	1993	1994	1995	1993	1994	1995
	No.			'000			No.		
Total	506	504	502	3,835.0	3,853.0	3,917.4	15,205	15,244	15,470
International	55	54	54	1,130.4	1,119.8	1,131.2	2,760	2,618	2,601
AFL-CIO/CLC	36	35	35	772.1	772.8	791.1	2,182	2,066	2,106
AFL-CIO/CFL	10	10	10	195.9	186.9	174.4	389	375	318
AFL-CIO only	7	7	7	155.3	152.3	157.9	180	167	167
Unaffiliated	2	2	2	7.1	7.8	7.8	9	10	10
National	419	418	416	2,153.7	2,188.5	2,220.2	9,415	9,614	9,779
CLC	42	40	40	975.1	1,009.8	1,055.3	3,976	4,189	4,366
CSD	3	3	3	43.6	43.8	43.8	185	181	181
CNTU	13	13	13	244.8	242.0	231.5	2,019	1,976	1,976
CCU	9	10	9	19.2	18.9	17.0	56	57	49
CFL	3	3	3	7.6	7.6	7.6	3	3	3
CEQ	16	16	16	118.6	120.9	118.4	242	243	241
CNFIU	7	6	6	2.4	1.7	1.7	7	6	6
Unaffiliated	326	327	326	742.4	743.8	744.9	2,927	2,959	2,957
Government	32	32	32	550.9	544.7	566.0	3,030	3,012	3,090
CLC	13	13	13	440.7	433.7	457.8	2,608	2,590	2,633
CFL	1	1	1	1.1	1.1	1.1	1	1	1
Unaffiliated	18	18	18	109.1	109.9	107.1	421	421	456

Source: CALURA

AFL-CIO American Federation of Labor and Congress of Industrial Organizations
 CLC Canadian Labour Congress
 CFL Canadian Federation of Labour
 CSD Centrale des syndicats démocratiques
 CNTU Confederation of National Trade Unions
 CCU Confederation of Canadian Unions
 CEQ Centrale de l'enseignement du Québec
 CNFIU Canadian National Federation of Independent Unions

Table 2: Union size by type, 1995

Membership range	Total		International		National		Government	
	Number	Members	Number	Members	Number	Members	Number	Members
	'000		'000		'000		'000	
Total	502	3,917.4	54	1,131.2	416	2,220.2	32	566.0
100 - 199	92	13.0	2	0.3	89	12.6	1	0.1
200 - 499	114	35.7	3	1.0	107	33.2	4	1.5
500 - 999	76	54.6	2	1.7	70	50.1	4	2.8
1,000 - 2,499	77	127.4	7	13.3	66	108.2	4	5.9
2,500 - 4,999	34	125.0	7	26.2	22	81.9	5	16.9
5,000 - 9,999	39	261.7	8	53.2	29	195.6	2	12.9
10,000 - 14,999	23	286.3	9	110.5	12	149.1	2	26.7
15,000 - 19,999	5	87.5	3	52.1	1	17.6	1	17.8
20,000 - 29,999	11	264.2	3	74.2	5	120.8	3	69.2
30,000 - 39,999	7	246.9	2	71.6	4	138.8	1	36.5
40,000 - 49,999	6	261.3	1	45.2	4	172.7	1	43.4
50,000 +	18	2,153.8	7	681.9	7	1,139.6	4	332.3

Source: CALURA

Table 3: Union membership in Canada by type, sex and reporting basis, 1962 to 1995

	Rate			Total		International		National		Government	
	Both sexes	Men	Women	Both sexes	Women	Both sexes	Women	Both sexes	Women	Both sexes	Women
	%			'000							
Pre-1983 reporting basis											
1962	...	...	...	1,514.9	233.2	1,011.7	111.2	324.0	79.2	179.2	42.8
1963	...	...	...	1,565.6	260.6	1,034.4	123.6	348.3	88.6	182.9	48.4
1964	...	...	...	1,650.6	276.2	1,098.4	133.3	363.7	99.3	188.5	43.6
1965	...	...	...	1,761.7	292.1	1,181.6	142.2	393.0	108.7	187.1	41.2
1966	30.8	38.4	15.9	1,897.2	322.7	1,264.4	159.8	437.6	120.6	195.2	42.3
1967	33.2	40.9	18.7	2,055.3	401.7	1,318.0	170.9	538.0	180.9	199.3	49.9
1968	33.0	40.1	19.5	2,146.4	438.5	1,353.3	185.5	575.0	203.4	218.1	49.6
1969	33.0	39.6	20.2	2,217.6	469.2	1,372.0	191.7	601.3	218.2	244.3	59.3
1970	32.6	38.3	21.7	2,267.5	513.2	1,383.2	198.1	622.8	243.2	261.5	71.9
1971	31.4	36.6	21.6	2,375.2	558.2	1,414.8	206.8	670.9	268.5	289.5	82.9
1972	31.9	37.9	21.4	2,377.2	575.6	1,442.7	219.3	627.8	265.4	306.7	90.9
1973	32.6	38.6	22.1	2,580.1	635.8	1,516.2	240.4	704.5	283.8	359.4	111.6
1974	32.6	38.6	22.4	2,682.8	677.0	1,486.6	246.9	799.0	293.4	397.2	136.7
1975	31.8	37.0	22.9	2,736.3	711.1	1,511.8	254.8	802.4	309.2	422.1	147.1
1976	31.2	36.7	22.4	2,778.7	750.6	1,514.7	258.7	829.6	337.4	434.4	154.5
1977	31.2	36.6	22.6	2,822.0	782.3	1,513.9	261.2	860.4	350.8	447.7	170.3
1978	30.8	36.1	22.7	2,907.6	835.3	1,527.1	269.3	897.7	380.4	482.8	185.6
1979	30.9	36.3	22.8	3,035.8	890.4	1,573.8	287.2	966.8	410.1	495.2	193.1
1980	30.6	35.8	22.9	3,092.9	932.9	1,554.1	287.5	1,044.5	446.1	494.3	199.3
1981	31.0	36.6	23.3	3,160.1	979.8	1,547.5	290.2	1,106.2	483.3	506.4	206.3
1982	31.3	36.8	24.0	3,054.4	985.3	1,428.5	276.8	1,104.0	494.3	521.9	214.2
1983	30.2	35.4	23.3	3,057.5	1,004.8	1,415.2	286.0	1,116.5	501.7	525.8	217.1
Post-1983 reporting basis											
1983	33.4	38.1	27.2	3,390.7	1,179.2	1,415.2	286.0	1,449.7	676.1	525.8	217.1
1984	33.1	37.6	27.4	3,438.6	1,219.1	1,382.8	279.5	1,530.5	721.0	525.3	218.6
1985	32.4	36.6	27.0	3,492.6	1,264.6	1,383.1	291.8	1,572.4	744.8	537.1	228.0
1986	32.6	36.8	27.2	3,603.3	1,310.0	1,255.6	270.6	1,800.3	806.6	547.4	232.8
1987	31.9	35.9	27.0	3,669.7	1,364.5	1,239.3	290.2	1,901.7	845.7	528.7	228.6
1988	32.0	36.0	27.1	3,780.8	1,418.9	1,253.8	299.4	2,002.4	887.4	524.6	232.1
1989	32.5	36.1	28.2	3,881.0	1,518.5	1,255.3	309.8	2,096.1	953.1	529.6	255.6
1990	33.1	36.5	29.1	3,897.6	1,557.1	1,229.6	304.3	2,125.3	989.1	542.7	263.7
1991	33.4	36.8	29.5	3,898.2	1,584.0	1,187.3	292.0	2,165.8	1,026.1	545.1	265.9
1992	33.2	36.1	29.7	3,866.1	1,595.6	1,156.7	287.9	2,160.7	1,035.7	548.7	272.0
1993	32.5	34.9	29.7	3,835.0	1,609.9	1,130.4	289.9	2,153.7	1,042.5	550.9	277.5
1994	32.1	34.5	29.3	3,853.0	1,632.5	1,119.8	293.8	2,188.5	1,065.5	544.7	273.2
1995	32.3	34.4	30.0	3,917.4	1,673.1	1,131.2	299.2	2,220.2	1,086.7	566.0	287.2

Source: CALURA

Table 4: Union membership by province/territory, type and sex, 1989 to 1995

		Canada	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.	Terr.
		'000											
Total													
Both sexes	1995	3,917.4	564.7	279.4	120.6	159.4	1,408.7	1,075.2	96.3	100.3	14.6	87.3	10.9
	1994	3,853.0	551.3	277.4	112.2	153.9	1,370.2	1,073.5	94.8	105.1	15.3	88.9	10.4
	1993	3,835.0	529.1	285.6	113.4	152.4	1,357.0	1,093.3	91.7	102.1	13.1	86.3	11.0
	1992	3,866.1	529.2	289.1	112.6	151.7	1,369.1	1,100.8	94.7	104.5	13.3	89.8	11.3
	1991	3,898.2	519.5	296.1	114.0	157.6	1,399.9	1,097.8	93.1	104.9	13.2	92.1	10.0
	1990	3,897.6	502.0	291.6	113.3	157.6	1,419.6	1,093.1	93.5	105.5	13.6	97.8	10.0
	1989	3,881.0	482.6	283.8	112.7	158.6	1,427.2	1,109.5	89.9	104.7	12.7	91.4	7.9
Women	1995	1,673.1	243.7	133.4	63.8	73.7	581.7	452.1	36.9	42.8	6.7	32.9	5.4
	1994	1,632.5	234.0	131.1	58.0	70.4	561.0	453.9	35.2	43.9	7.4	32.4	5.2
	1993	1,609.9	224.4	135.9	58.1	70.3	551.7	450.4	34.2	41.7	7.0	30.7	5.5
	1992	1,595.6	219.6	135.7	55.7	69.9	548.1	447.1	34.3	41.1	6.9	31.7	5.5
	1991	1,584.0	211.3	138.2	53.8	70.2	549.5	443.2	33.3	40.6	7.0	32.1	4.8
	1990	1,557.1	198.4	135.1	53.7	70.4	553.2	424.6	33.0	39.9	7.2	36.8	4.8
	1989	1,518.5	183.4	130.0	53.0	67.9	536.8	432.0	33.4	39.5	6.8	32.2	3.5
International													
Both sexes	1995	1,131.2	166.6	86.9	27.2	53.2	499.3	228.3	22.0	25.3	2.9	18.5	1.0
	1994	1,119.8	166.2	86.2	29.0	51.4	491.1	224.8	22.3	27.3	2.6	17.7	1.2
	1993	1,130.4	162.6	88.7	29.6	52.7	489.0	234.5	24.3	29.0	1.8	17.1	1.1
	1992	1,156.7	167.8	88.6	30.2	50.8	501.0	242.0	25.0	30.8	1.9	17.1	1.5
	1991	1,187.3	168.5	90.9	31.6	54.8	520.9	242.6	24.5	30.6	1.7	19.6	1.6
	1990	1,229.6	169.4	88.9	31.0	54.6	543.2	259.0	26.1	32.7	1.9	21.4	1.4
	1989	1,255.3	161.3	86.3	29.9	56.7	576.5	265.7	25.8	32.0	1.7	18.0	1.4
Women	1995	299.2	37.8	17.3	9.7	13.4	144.2	66.7	2.5	3.7	0.4	3.3	0.2
	1994	293.8	37.3	16.3	10.0	13.5	140.8	65.2	2.5	4.2	0.5	3.2	0.3
	1993	289.9	35.2	17.4	10.0	13.3	137.2	66.8	2.8	4.1	0.4	2.4	0.3
	1992	287.9	35.1	15.7	10.1	13.3	136.7	67.8	2.2	4.1	0.4	2.2	0.3
	1991	292.0	35.0	16.2	10.0	13.6	140.9	66.6	2.0	4.0	0.5	2.9	0.3
	1990	304.3	35.3	15.4	10.1	13.6	146.8	70.9	2.5	4.1	0.6	4.7	0.3
	1989	309.8	32.3	16.2	9.6	13.6	154.4	73.5	2.5	3.4	0.6	3.4	0.3
National													
Both sexes	1995	2,220.2	316.9	140.0	66.4	73.6	711.1	748.2	59.3	50.3	6.6	45.6	2.2
	1994	2,188.5	310.2	138.1	62.1	69.9	684.5	756.6	57.2	52.9	7.0	47.9	2.1
	1993	2,153.7	294.0	139.8	62.7	67.8	673.8	760.5	53.3	47.1	5.7	46.9	2.1
	1992	2,160.7	294.2	140.6	61.4	67.6	675.3	758.2	56.1	49.0	5.8	50.7	1.8
	1991	2,165.8	287.0	144.2	61.0	68.6	685.7	756.1	55.5	49.7	5.8	50.5	1.7
	1990	2,125.3	271.7	140.0	60.8	69.3	683.6	736.4	54.4	48.0	6.0	53.5	1.6
	1989	2,096.1	261.1	134.6	61.3	68.6	664.2	747.3	51.3	48.5	5.5	52.1	1.6
Women	1995	1,086.7	161.2	84.5	38.8	42.4	342.3	343.0	26.1	26.3	3.5	17.3	1.3
	1994	1,065.5	155.8	83.8	36.5	39.5	327.8	348.7	24.3	26.9	3.7	17.2	1.3
	1993	1,042.5	150.0	84.7	36.6	39.7	321.2	341.0	23.9	24.0	3.3	16.9	1.2
	1992	1,035.7	148.6	84.8	34.9	39.1	319.8	336.2	25.1	24.3	3.4	18.4	1.1
	1991	1,026.1	142.7	86.4	35.1	39.3	317.3	334.5	24.6	24.0	3.3	18.0	0.9
	1990	989.1	131.5	83.5	34.8	38.8	316.2	312.4	23.9	23.3	3.4	20.5	0.8
	1989	953.1	120.7	77.7	34.6	36.9	294.7	318.1	24.4	23.9	3.1	18.2	0.8
Government													
Both sexes	1995	566.0	81.2	52.5	27.0	32.6	198.3	98.7	15.0	24.7	5.1	23.2	7.7
	1994	544.7	74.9	53.1	21.1	32.6	194.6	92.1	15.3	24.9	5.7	23.3	7.1
	1993	550.9	72.5	57.1	21.1	31.9	194.2	98.3	14.1	26.0	5.6	22.3	7.8
	1992	548.7	67.2	59.9	21.0	33.3	192.8	100.6	13.6	24.7	5.6	22.0	8.0
	1991	545.1	64.0	61.0	21.4	34.2	193.3	99.1	13.1	24.6	5.7	22.0	6.7
	1990	542.7	60.9	62.7	21.5	33.7	192.8	97.7	13.0	24.8	5.7	22.9	7.0
	1989	529.6	60.2	62.9	21.5	33.3	186.5	96.5	12.8	24.2	5.5	21.3	4.9
Women	1995	287.2	44.7	31.6	15.3	17.9	95.2	42.4	8.3	12.8	2.8	12.3	3.9
	1994	273.2	40.9	31.0	11.5	17.4	92.4	40.0	8.4	12.8	3.2	12.0	3.6
	1993	277.5	39.2	33.8	11.5	17.3	93.3	42.6	7.5	13.6	3.3	11.4	4.0
	1992	272.0	35.9	35.2	10.7	17.5	91.6	43.1	7.0	12.7	3.1	11.1	4.1
	1991	265.9	33.6	35.6	8.7	17.3	91.3	42.1	6.7	12.6	3.2	11.2	3.6
	1990	263.7	31.6	36.2	8.8	18.0	90.2	41.3	6.6	12.5	3.2	11.6	3.7
	1989	255.6	30.4	36.1	8.8	17.4	87.6	40.4	6.5	12.2	3.1	10.6	2.5

Source: CALURA

Table 5A: Unionization rates by sex and industry, 1993

	Union members*			Paid workers**			Unionization rate		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000						%		
All industries	3,757.5	2,162.1	1,595.4	11,568.8	6,197.1	5,371.7	32.5	34.9	29.7
Agriculture	2.8	1.7	1.1	154.7	97.2	57.5	1.8	1.7	2.0
Forestry	23.9	23.0	0.9	62.5	56.5	6.0	38.3	40.7	15.4
Fishing and trapping	6.6	5.0	1.6	12.1	9.3	2.8	54.5	54.2	55.6
Mines, quarries and oil wells	39.0	37.2	1.8	152.6	131.4	21.2	25.6	28.3	8.4
Metal mines	18.7	17.9	0.8	48.2	44.0	4.2	38.8	40.8	17.8
Mineral fuels	9.4	8.7	0.7	84.7	68.8	16.0	11.1	12.6	4.5
Other mines	10.9	10.6	0.3	19.7	18.6	1.0	55.4	56.8	30.2
Manufacturing	592.3	478.4	113.9	1,847.6	1,340.4	507.2	32.1	35.7	22.5
Food and beverage	99.3	72.6	26.7	224.7	153.7	71.0	44.2	47.2	37.5
Tobacco products	2.5	...	...	4.4	1.6	2.9	57.3	...	...
Rubber and plastic products	18.1	14.0	4.1	74.4	54.0	20.3	24.3	25.8	20.3
Leather	3.9	...	...	10.5	5.9	4.6	37.2	27.5	...
Textiles, knitting and clothing	38.0	13.7	24.4	147.0	53.3	93.7	25.9	25.6	26.0
Wood	33.6	30.9	2.7	146.1	129.3	16.8	23.0	23.9	16.0
Furniture and fixture	7.2	5.6	1.5	56.1	41.5	14.5	12.8	13.6	10.6
Paper and allied products	69.0	63.6	5.4	118.5	104.4	14.1	58.2	61.0	38.0
Printing and publishing	29.8	21.5	8.2	157.8	95.3	62.5	18.9	22.6	13.2
Primary metal	52.0	49.6	2.4	101.9	91.5	10.3	51.0	54.2	23.4
Metal fabrication	41.1	38.0	3.1	141.8	115.3	26.5	29.0	33.0	11.8
Machinery	17.5	15.5	2.1	56.8	51.5	5.3	30.8	30.0	39.0
Transportation equipment	99.0	85.9	13.1	231.2	184.9	46.3	42.8	46.5	28.2
Electrical products	30.6	21.5	9.1	139.1	87.6	51.6	22.0	24.6	17.6
Non-metallic mineral products	19.4	17.3	2.1	38.2	32.3	6.0	50.8	53.7	35.0
Refined petroleum and coal products	4.7	4.5	0.3	13.5	12.3	1.1	35.3	36.3	23.8
Chemical products	15.2	12.5	2.7	98.2	72.3	25.9	15.5	17.3	10.3
Miscellaneous manufacturing	11.4	8.5	2.8	87.5	53.7	33.8	13.0	15.9	8.4
Construction	317.0	307.7	9.3	511.0	446.8	64.2	62.0	68.9	14.5
Transportation, communication and other utilities	451.6	333.7	117.9	921.1	653.2	267.9	49.0	51.1	44.0
Transportation	220.6	185.8	34.8	474.7	372.2	102.5	46.5	49.9	34.0
Communication	164.7	95.0	69.8	292.7	165.7	127.0	56.3	57.3	54.9
Other utilities	66.3	52.9	13.3	153.7	115.3	38.4	43.1	45.9	34.6
Trade	236.2	144.7	91.5	2,096.3	1,138.3	958.0	11.3	12.7	9.6
Wholesale	55.5	46.6	8.9	547.1	397.1	150.1	10.1	11.7	5.9
Retail	180.7	98.1	82.6	1,549.1	741.2	807.9	11.7	13.2	10.2
Finance	24.7	6.1	18.6	505.8	159.9	346.0	4.9	3.8	5.4
Real estate operators and insurance agencies	6.5	4.3	2.2	220.2	123.3	96.9	3.0	3.5	2.3
Community, business and personal services	1,423.6	465.4	958.2	4,220.1	1,559.8	2,660.2	33.7	29.8	36.0
Education and related services	674.4	266.7	407.8	923.4	349.6	573.8	73.0	76.3	71.1
Health and social	590.5	109.7	480.8	1,210.4	232.2	978.2	48.8	47.2	49.2
Business services	26.4	19.9	6.6	631.5	338.5	292.9	4.2	5.9	2.2
Accommodation, food and beverage	60.3	28.4	31.9	764.0	344.3	419.7	7.9	8.2	7.6
Other	72.0	40.8	31.2	690.7	295.1	395.6	10.4	13.8	7.9
Government services	633.2	354.9	278.3	864.8	481.1	383.7	73.2	73.8	72.5

Source: CALURA

* Excludes pensioners, the unemployed and members in the Northwest Territories and Yukon.

** As of December.

Table 5B: Unionization rates by sex and industry, 1994

	Union members*			Paid workers**			Unionization rate		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000						%		
All industries	3,813.5	2,191.1	1,622.4	11,882.6	6,348.9	5,533.7	32.1	34.5	29.3
Agriculture	3.1	2.0	1.2	155.2	98.8	56.4	2.0	2.0	2.1
Forestry	26.8	25.2	1.6	72.4	63.9	8.5	37.1	39.5	18.9
Fishing and trapping	6.5	5.2	1.4	15.9	11.8	4.0	41.2	43.7	34.0
Mines, quarries and oil wells	36.7	35.1	1.6	155.9	133.2	22.8	23.5	26.3	7.2
Metal mines	16.6	15.9	0.7	43.1	39.5	3.6	38.5	40.2	19.7
Mineral fuels	8.7	8.0	0.7	57.5	44.7	12.8	15.2	17.9	5.6
Other mines	11.4	11.1	0.2	55.4	49.0	6.4	20.5	22.8	3.4
Manufacturing	583.7	472.1	111.7	1,966.1	1,407.8	558.3	29.7	33.5	20.0
Food and beverage	96.4	70.0	26.4	233.0	159.2	73.8	41.4	44.0	35.7
Tobacco products	...	...	...	2.5	...	...	...	...	...
Rubber and plastic products	18.2	14.1	4.1	94.0	68.5	25.5	19.3	20.6	16.0
Leather	4.3	1.6	2.7	15.4	5.8	9.6	28.0	27.7	28.2
Textiles, knitting and clothing	37.1	14.0	23.1	155.5	51.2	104.3	23.9	27.4	22.1
Wood	33.2	30.5	2.7	134.4	112.7	21.7	24.7	27.1	12.2
Furniture and fixture	7.2	5.6	1.5	51.7	37.7	14.0	13.8	14.9	10.9
Paper and allied products	71.3	65.4	5.9	136.5	114.3	22.3	52.2	57.2	26.7
Printing and publishing	22.3	16.6	5.7	154.1	88.2	65.9	14.5	18.8	8.7
Primary metal	51.6	49.1	2.4	115.0	99.1	15.8	44.9	49.6	15.3
Metal fabrication	40.1	37.0	3.1	139.5	117.7	21.7	28.7	31.4	14.4
Machinery	17.4	15.5	1.8	74.6	63.1	11.5	23.3	24.6	15.9
Transportation equipment	104.4	89.9	14.5	259.0	212.5	46.4	40.3	42.3	31.2
Electrical products	27.3	18.8	8.5	142.1	98.8	43.2	19.2	19.0	19.7
Non-metallic mineral products	19.6	17.4	2.1	47.4	37.9	9.5	41.3	46.0	22.6
Refined petroleum and coal products	...	...	...	16.1	10.8	5.3	...	...	...
Chemical products	13.9	11.4	2.5	105.1	76.2	28.9	13.2	14.9	8.8
Miscellaneous manufacturing	12.4	9.2	3.2	90.4	52.3	38.1	13.7	17.5	8.4
Construction	315.3	305.5	9.8	549.3	480.8	68.5	57.4	63.5	14.3
Transportation, communication and other utilities	474.4	350.8	123.6	929.0	678.4	250.6	51.1	51.7	49.3
Transportation	237.2	197.4	39.9	463.3	380.9	82.4	51.2	51.8	48.4
Communication	169.3	98.7	70.6	318.5	191.0	127.5	53.1	51.7	55.3
Other utilities	67.9	54.7	13.2	147.2	106.5	40.7	46.1	51.4	32.4
Trade	243.6	148.8	94.8	2,089.0	1,125.9	963.1	11.7	13.2	9.8
Wholesale	59.5	50.0	9.5	525.9	378.7	147.1	11.3	13.2	6.4
Retail	184.1	98.8	85.3	1,563.1	747.2	816.0	11.8	13.2	10.4
Finance	24.5	6.3	18.3	532.6	176.0	356.7	4.6	3.6	5.1
Real estate operators and insurance agencies	6.3	4.3	2.0	200.6	105.6	95.0	3.2	4.0	2.2
Community, business and personal services	1,452.2	478.9	973.3	4,371.5	1,599.3	2,772.2	33.2	29.9	35.1
Education and related services	678.9	266.7	412.2	962.9	358.3	604.6	70.5	74.4	68.2
Health and social	595.9	111.5	484.4	1,225.6	219.8	1,005.8	48.6	50.7	48.2
Business services	35.6	26.4	9.2	687.7	370.4	317.2	5.2	7.1	2.9
Accommodation, food and beverage	65.3	31.0	34.3	816.8	362.1	454.8	8.0	8.6	7.5
Other	76.5	43.3	33.2	678.6	288.8	389.8	11.3	15.0	8.5
Government services	640.2	357.1	283.1	845.1	467.4	377.7	75.8	76.4	75.0

Source: CALURA

* Excludes pensioners, the unemployed and members in the Northwest Territories and Yukon.

** As of December.

Table 5C: Unionization rates by sex and industry, 1995

	Union members*			Paid workers**			Unionization rate		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	'000						%		
All industries	3,858.5	2,201.9	1,656.5	11,927.4	6,406.7	5,520.8	32.3	34.4	30.0
Agriculture	3.0	...	...	167.1	108.3	58.8	1.8	...	...
Forestry	26.3	24.7	1.6	70.3	63.2	7.1	37.4	39.1	22.2
Fishing and trapping	6.6	...	...	12.4	10.4	2.0	53.3	...	...
Mines, quarries and oil wells	37.1	35.4	1.7	158.1	132.0	26.2	23.5	26.8	6.5
Metal mines	17.0	16.4	0.7	51.9	48.2	3.8	32.8	33.9	18.0
Mineral fuels	8.9	8.2	0.7	82.9	63.7	19.3	10.7	12.8	3.7
Other mines	11.1	10.9	0.3	23.3	20.1	3.1	47.8	54.0	9.2
Manufacturing	597.5	478.3	119.2	1,963.1	1,412.4	550.7	30.4	33.9	21.6
Food and beverage	93.0	68.1	24.9	229.6	150.3	79.3	40.5	45.3	31.5
Tobacco products	...	...	...	3.6	1.7	1.9	...	...	...
Rubber and plastic products	21.6	16.5	5.0	86.3	65.8	20.5	25.0	25.1	24.6
Leather	...	...	...	10.2	3.8	6.4	...	...	...
Textiles, knitting and clothing	38.4	14.6	23.9	144.5	49.2	95.3	26.6	29.6	25.0
Wood	33.5	30.9	2.6	142.9	127.4	15.6	23.4	24.2	16.8
Furniture and fixture	7.4	5.9	1.5	46.3	32.4	13.9	15.9	18.1	10.6
Paper and allied products	68.9	62.9	6.0	128.4	106.9	21.5	53.6	58.9	27.7
Printing and publishing	22.3	16.6	5.8	169.4	95.7	73.7	13.2	17.3	7.8
Primary metal	52.0	49.3	2.7	108.3	97.3	11.0	48.0	50.7	24.2
Metal fabrication	38.9	35.8	3.0	145.8	121.8	24.0	26.7	29.4	12.7
Machinery	19.4	17.5	1.9	81.7	67.2	14.5	23.7	26.0	13.0
Transportation equipment	109.1	91.9	17.1	270.2	217.2	53.0	40.4	42.3	32.3
Electrical products	29.5	18.5	11.1	131.3	91.6	39.8	22.5	20.2	27.8
Non-metallic mineral products	19.8	17.7	2.2	49.0	41.1	7.9	40.5	43.0	27.5
Refined petroleum and coal products	4.7	4.4	0.2	15.2	13.5	1.7	30.7	32.8	13.5
Chemical products	14.4	11.7	2.7	108.2	66.6	41.6	13.3	17.5	6.6
Miscellaneous manufacturing	17.0	12.4	4.6	92.2	63.1	29.1	18.4	19.6	15.9
Construction	307.8	298.6	9.2	547.4	478.0	69.3	56.2	62.5	13.2
Transportation, communication and other utilities	494.0	359.4	134.6	946.1	680.8	265.3	52.2	52.8	50.7
Transportation	244.0	200.5	43.4	491.5	393.3	98.2	49.6	51.0	44.2
Communication	185.4	106.9	78.5	316.4	181.4	135.0	58.6	58.9	58.1
Other utilities	64.7	52.0	12.7	138.2	106.1	32.1	46.8	49.0	39.4
Trade	248.5	150.0	98.5	2,132.6	1,156.3	976.3	11.7	13.0	10.1
Wholesale	59.6	49.7	9.9	577.0	413.7	163.3	10.3	12.0	6.0
Retail	188.9	100.3	88.7	1,555.5	742.6	813.0	12.1	13.5	10.9
Finance	24.2	6.8	17.4	494.7	155.0	339.7	4.9	4.4	5.1
Real estate operators and insurance agencies	6.4	4.3	2.1	213.4	112.9	100.5	3.0	3.8	2.1
Community, business and personal services	1,464.5	486.9	977.6	4,447.4	1,661.7	2,785.7	32.9	29.3	35.1
Education and related services	675.2	264.5	410.7	964.0	366.9	597.1	70.0	72.1	68.8
Health and social	592.6	108.5	484.1	1,250.9	236.2	1,014.7	47.4	45.9	47.7
Business services	36.6	27.4	9.2	718.4	390.5	327.9	5.1	7.0	2.8
Accommodation, food and beverage	65.0	30.8	34.2	793.7	348.0	445.7	8.2	8.9	7.7
Other	95.0	55.7	39.3	720.5	320.2	400.3	13.2	17.4	9.8
Government services	642.6	350.5	292.1	774.9	435.8	339.1	82.9	80.4	86.1

Source: CALURA

* Excludes pensioners, the unemployed and members in the Northwest Territories and Yukon.

** As of December.

Table 6A: Unionization rates by province and industry, 1993

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	34.9	24.3	31.3	34.2	29.1	38.8	34.5	31.4	29.9	52.0
Agriculture	7.5	0.3	1.2	-	0.5	1.8	-	11.0	-	1.6
Forestry	50.8	0.4	-	38.2	10.9	48.6	17.6	-	-	-
Fishing and trapping	53.8	-	-	-	5.6	54.9	...	23.0	-	-
Mines, quarries and oil wells	79.1	5.0	28.4	18.0	26.1	58.0	20.6	...	-	71.4
Metal mines	53.1	-	22.2	20.7	25.0	54.5	12.7	-	-	...
Mineral fuels	58.7	4.9	7.5	-	41.2	...	71.6	...	-	-
Other mines	...	14.1	53.6	11.4	25.9	66.8	20.6	...	-	69.0
Manufacturing	31.1	20.1	23.7	36.0	31.2	31.4	40.2	32.1	15.9	...
Food and beverage	53.0	32.3	45.7	53.1	29.4	41.6	20.1	43.9	12.4	...
Tobacco products	-	-	-	-	66.3	57.1	-	-	-	-
Rubber and plastic products	67.3	7.0	25.4	4.3	20.2	44.0	6.3	2.6	-	-
Leather	-	22.4	-	65.0	42.8	31.6	54.1	-	-	-
Textiles, knitting and clothing	10.9	26.9	34.5	70.9	36.4	21.2	0.1	29.4	-	-
Wood	24.1	11.8	50.7	2.1	26.9	22.2	34.4	1.9	-	3.8
Furniture and fixture	10.2	3.2	-	6.6	15.7	10.6	27.8	-	-	41.9
Paper and allied products	57.9	39.2	45.1	65.3	51.2	59.5	61.3	57.1	4.0	...
Printing and publishing	22.2	17.4	5.6	26.5	14.1	30.5	17.5	5.9	8.9	11.3
Primary metal	21.7	29.3	52.2	...	55.3	44.1	...	60.9	-	23.9
Metal fabrication	57.6	39.1	24.7	51.2	21.5	36.2	34.0	44.6	-	27.5
Machinery	66.4	9.2	5.9	20.4	36.2	33.0	-	48.1	-	-
Transportation equipment	29.4	10.4	1.3	22.6	51.7	22.1	96.7	59.6	90.5	56.5
Electrical products	8.0	0.6	13.9	13.7	22.1	31.3	6.7	9.6	-	-
Non-metallic mineral products	31.0	65.9	7.6	26.0	47.3	77.8	44.2	40.3	56.6	68.9
Refined petroleum and coal products	38.1	54.1	41.2	-	35.4	23.1	43.6	-	-	52.1
Chemical products	8.1	4.8	11.6	26.1	15.7	19.7	8.6	41.5	-	28.6
Miscellaneous manufacturing	2.5	3.2	1.2	47.2	8.5	20.8	12.1	13.5	-	3.3
Construction	45.3	31.1	43.4	24.3	60.2	...	...	56.2	15.5	50.1
Transportation, communication and other utilities	52.7	38.7	50.5	57.4	46.3	54.3	52.0	45.2	56.5	43.2
Transportation	51.2	35.4	66.2	52.2	42.2	47.8	68.3	52.0	74.5	29.1
Communication	59.5	44.7	37.2	65.1	52.7	70.9	26.8	45.2	46.3	63.3
Other utilities	44.8	37.4	23.1	64.2	45.3	42.8	38.1	28.0	23.4	53.4
Trade	9.4	11.8	11.0	11.9	12.1	12.3	5.6	5.3	0.6	9.0
Wholesale	7.1	6.6	6.2	9.9	13.1	10.0	10.1	6.9	2.2	18.1
Retail	10.2	14.0	12.7	12.6	11.8	13.3	4.2	4.9	0.2	7.2
Finance	9.3	0.6	1.5	2.0	2.0	10.6	2.0	3.1	-	3.5
Real estate operators and insurance agencies	1.7	-	22.6	0.8	2.6	4.4	-	0.3	-	5.2
Community, business and personal services	38.2	27.7	33.2	31.8	28.3	43.0	33.3	30.2	33.5	42.7
Education and related services	74.4	68.1	52.4	77.0	70.3	84.5	62.8	64.8	50.2	62.1
Health and social	62.4	43.7	56.1	42.7	36.8	64.6	46.3	34.4	62.4	59.9
Business services	3.2	0.8	3.2	9.0	3.2	7.3	7.6	4.3	-	8.3
Accommodation, food and beverage	11.5	2.4	5.7	3.0	7.6	10.6	3.5	7.9	-	16.0
Other	22.5	4.7	6.8	6.7	9.8	9.1	8.2	9.6	9.3	4.4
Government services	85.3	69.5	84.7	...	64.4	74.1	79.0	77.2	88.0	83.2

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 6B: Unionization rates by province and industry, 1994

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	35.4	23.1	30.6	34.1	29.1	37.5	33.9	31.5	33.4	53.3
Agriculture	11.9	0.3	1.5	0.7	0.3	3.6	-	6.6	-	2.2
Forestry	47.0	0.3	-	...	41.8	41.6	28.5	-	-	-
Fishing and trapping	54.7	-	-	-	0.7	8.4	...	17.8	...	-
Mines, quarries and oil wells	84.2	5.0	28.0	23.9	23.3	42.4	20.1	45.4	-	51.3
Metal mines	...	-	23.6	26.1	23.7	43.7	5.9	-	-	...
Mineral fuels	50.3	7.8	9.2	-	97.4	-	62.5	53.5	-	-
Other mines	...	0.4	39.6	25.1	16.0	38.2	25.4	43.3	-	6.8
Manufacturing	30.5	16.8	25.6	30.1	29.5	27.1	40.9	32.1	14.4	...
Food and beverage	30.7	35.5	47.7	41.8	29.6	34.2	26.1	37.0	12.8	...
Tobacco products	-	-	-	-	...	...	-	-	-	-
Rubber and plastic products	27.4	7.5	75.9	7.5	20.2	22.1	5.2	2.2	-	-
Leather	2.5	27.9	-	...	31.5	17.8	-	-	-	-
Textiles, knitting and clothing	23.5	12.8	7.9	32.4	33.1	19.9	0.3	20.6	-	-
Wood	31.5	10.1	87.3	0.8	24.6	21.6	33.9	2.1	-	26.6
Furniture and fixture	6.1	2.3	-	2.6	22.7	10.7	14.4	-	-	-
Paper and allied products	45.9	23.9	...	...	40.4	62.3	65.3	59.6	-	...
Printing and publishing	25.8	11.2	5.9	8.9	11.3	20.7	13.3	7.1	4.1	14.4
Primary metal	32.5	23.8	53.1	...	45.3	43.9	...	52.2	-	70.5
Metal fabrication	37.6	24.9	15.5	65.6	24.5	35.3	22.6	44.4	-	...
Machinery	37.0	9.3	5.4	32.5	28.9	18.5	-	29.2	-	-
Transportation equipment	45.5	8.9	0.6	26.9	46.2	22.0	78.6	62.4	67.1	22.6
Electrical products	5.0	0.3	12.5	20.9	22.5	19.3	6.5	29.6	-	-
Non-metallic mineral products	36.0	59.4	8.3	18.4	43.6	37.2	64.7	...	57.7	46.2
Refined petroleum and coal products	...	15.0	35.7	11.3	24.7	36.9	...	-	-	...
Chemical products	6.5	8.6	16.0	8.0	14.0	13.2	93.9	...	-	76.1
Miscellaneous manufacturing	2.1	2.2	4.7	37.4	7.0	29.5	19.2	25.8	-	-
Construction	46.4	30.6	36.1	31.2	53.4	...	55.7	53.6	39.2	56.2
Transportation, communication and other utilities	61.3	35.7	43.6	52.0	50.0	52.8	57.6	56.2	...	52.6
Transportation	56.1	31.7	59.3	49.5	56.9	46.1	75.8	54.0	...	36.1
Communication	74.8	42.2	26.5	62.9	44.2	66.9	24.8	60.6	51.4	...
Other utilities	54.1	37.0	23.1	44.5	47.0	45.6	60.6	53.4	48.5	62.4
Trade	9.6	11.2	10.2	12.9	12.8	12.4	5.9	8.7	0.5	10.4
Wholesale	8.5	7.7	4.5	11.2	13.9	10.8	9.9	18.0	0.5	23.5
Retail	10.0	12.5	12.5	13.5	12.5	13.0	4.6	6.2	0.5	7.4
Finance	10.1	0.6	1.7	1.9	1.7	10.8	1.6	2.4	-	4.4
Real estate operators and insurance agencies	1.7	-	20.1	0.9	2.6	6.0	-	0.7	-	3.1
Community, business and personal services	35.4	25.6	34.8	32.1	28.3	42.8	30.5	33.5	34.1	38.6
Education and related services	67.1	66.5	60.0	68.6	66.5	84.3	56.4	68.5	63.5	60.3
Health and social	51.6	39.6	55.8	42.6	37.7	67.8	40.9	44.8	56.0	56.2
Business services	8.4	0.4	2.4	10.9	4.5	6.4	8.1	4.9	-	5.9
Accommodation, food and beverage	10.5	3.2	6.5	4.1	7.8	9.8	4.2	9.8	-	10.1
Other	23.4	4.2	8.7	7.3	11.6	9.3	7.7	8.2	20.0	4.8
Government services	89.4	75.7	83.1	...	68.2	74.8	78.1	62.0	80.7	83.9

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 6C: Unionization rates by province and industry, 1995

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	36.5	22.9	32.9	35.0	29.5	37.2	35.0	29.2	29.7	52.3
Agriculture	6.3	0.3	0.8	0.8	0.3	3.4	-	7.3	-	-
Forestry	...	0.4	-	-	19.9	36.5	20.7	-	-	-
Fishing and trapping	...	-	-	-	0.4	-	...	16.7	-	-
Mines, quarries and oil wells	...	5.6	21.5	18.6	20.6	42.6	21.7	47.8	-	36.6
Metal mines	...	-	14.7	17.7	20.4	51.1	14.3	-	-	...
Mineral fuels	46.4	5.6	5.3	-	-	-	-	66.8	-	-
Other mines	-	-	55.4	-	13.8	36.1	22.4	-	-	-
Manufacturing	29.2	17.8	19.0	29.2	30.2	29.6	37.6	36.3	10.6	...
Food and beverage	...	25.9	24.0	31.8	26.3	38.9	24.6	41.3	10.0	...
Tobacco products	-	-	-	-	-	54.9	-	-	-	-
Rubber and plastic products	22.2	15.9	-	4.0	31.7	22.0	-	2.3	-	-
Leather	-	-	-	-	...	32.4	-	-	-	-
Textiles, knitting and clothing	14.7	16.2	-	40.1	32.2	24.2	0.3	-	-	-
Wood	29.8	7.4	30.8	0.5	22.9	26.1	34.1	2.0	-	-
Furniture and fixture	6.9	1.9	-	3.4	28.4	11.2	-	-	-	-
Paper and allied products	56.9	35.9	-	-	43.6	55.2	64.0	64.3	-	...
Printing and publishing	16.6	14.1	5.3	11.1	10.1	18.4	16.0	9.9	-	-
Primary metal	20.8	26.7	43.7	...	49.3	47.6	...	...	-	-
Metal fabrication	43.6	24.6	13.2	51.4	23.8	26.2	18.9	-	-	-
Machinery	23.4	14.9	6.7	35.2	26.4	19.6	-	-	-	-
Transportation equipment	40.8	16.0	0.6	34.2	42.4	31.8	79.2	40.4	-	21.4
Electrical products	4.8	0.8	5.4	-	25.3	24.5	-	-	-	-
Non-metallic mineral products	21.4	63.2	-	18.9	45.0	43.1	-	-	-	-
Refined petroleum and coal products	-	25.2	-	-	26.0	-	-	-	-	-
Chemical products	6.3	11.9	-	...	13.5	15.0	-	-	-	-
Miscellaneous manufacturing	1.3	2.4	-	44.4	15.7	32.5	-	20.7	-	-
Construction	49.1	38.4	30.8	26.4	52.9	...	49.7	54.5	20.4	47.4
Transportation, communication and other utilities	63.4	36.8	59.7	62.4	49.1	54.4	68.4	41.8	...	45.9
Transportation	59.1	30.8	...	66.3	48.4	44.0	...	41.8	-	36.2
Communication	74.6	47.5	35.3	58.5	49.8	77.1	45.8	51.8	-	59.9
Other utilities	53.7	39.5	21.9	54.9	49.9	46.2	72.6	3.7	-	44.0
Trade	10.9	11.3	10.6	12.1	12.5	12.2	6.9	6.9	0.4	11.5
Wholesale	9.2	6.4	2.4	9.2	11.6	10.0	16.1	16.7	0.5	39.3
Retail	11.5	13.3	14.0	13.3	12.9	13.1	4.4	4.8	0.4	6.3
Finance	8.8	0.5	1.8	1.8	2.1	11.0	1.7	2.5	-	4.1
Real estate operators and insurance agencies	1.9	-	17.1	0.7	2.9	4.1	0.2	0.3	-	4.4
Community, business and personal services	35.8	24.2	36.9	34.2	28.6	41.2	31.0	29.0	33.7	44.9
Education and related services	77.2	64.4	60.4	71.6	64.1	81.8	57.7	62.0	53.0	67.4
Health and social	51.2	39.4	56.6	45.4	38.6	61.1	40.3	37.0	41.2	61.0
Business services	6.7	0.4	2.9	11.4	5.1	6.0	8.2	4.0	-	5.2
Accommodation, food and beverage	11.8	2.9	6.9	4.1	8.1	10.0	4.6	7.9	-	17.9
Other	21.2	5.3	11.3	11.5	12.7	13.9	11.4	8.8	46.8	6.4
Government services	...	72.0	...	...	76.9	80.4	95.1	69.6	81.2	80.1

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 7A: Unionization rates for women by province and industry, 1993

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	33.8	25.8	33.5	33.4	25.2	35.5	28.5	27.2	33.3	40.1
Agriculture	7.5	0.4	0.1	-	0.6	2.1	-	1.6	-	1.7
Forestry	22.4	8.1	-	2.7	0.6	17.7	25.5	-	-	-
Fishing and trapping	18.2	-	-	-	-	59.3	...	30.3	-	-
Mines, quarries and oil wells	24.8	0.6	11.2	19.8	34.0	54.8	10.2	18.9	-	18.7
Metal mines	10.2	-	13.6	5.4	17.4	46.0	-	-	-	22.1
Mineral fuels	68.9	0.6	2.1	-	-	-	-	21.9	-	-
Other mines	-	2.1	21.2	-	17.4	73.2	-	12.0	-	-
Manufacturing	22.3	13.3	15.0	37.0	21.5	22.2	12.4	28.0	12.3	...
Food and beverage	...	35.6	36.9	52.0	24.1	40.5	7.5	53.3	15.0	...
Tobacco products	-	-	-	-	32.7	36.6	-	-	-	-
Rubber and plastic products	12.8	8.2	20.5	3.7	18.8	35.2	-	2.3	-	-
Leather	-	5.5	-	39.1	41.5	...	33.9	-	-	-
Textiles, knitting and clothing	10.8	40.2	27.6	...	33.8	21.1	0.1	29.4	-	-
Wood	15.1	2.9	...	-	19.8	16.5	18.5	14.7	-	-
Furniture and fixture	3.8	2.5	-	0.4	16.2	6.8	-	-	-	1.4
Paper and allied products	...	31.0	...	...	34.4	42.6	37.8	18.2	-	-
Printing and publishing	16.0	8.1	2.7	21.4	10.3	21.8	11.8	1.9	4.4	11.2
Primary metal	19.0	12.9	11.0	29.1	40.1	12.3	9.8	-	-	-
Metal fabrication	21.6	11.7	2.1	1.0	11.9	9.6	...	11.6	-	-
Machinery	-	12.0	0.3	5.2	54.0	42.6	-	-	-	-
Transportation equipment	11.1	6.4	-	15.2	31.9	19.4	6.8	10.0	-	2.3
Electrical products	15.5	-	7.9	1.4	18.4	18.7	-	37.8	-	-
Non-metallic mineral products	2.2	-	2.0	-	34.7	42.5	50.4	9.5	-	-
Refined petroleum and coal products	-	45.5	13.4	-	24.5	-	1.8	-	-	-
Chemical products	3.0	-	0.4	2.4	9.3	17.7	-	-	-	3.8
Miscellaneous manufacturing	0.9	4.6	1.5	...	5.9	10.8	57.7	15.3	-	-
Construction	12.3	15.7	2.1	3.5	8.2	33.6	2.3	1.0	1.6	13.1
Transportation, communication and other utilities	43.8	32.2	60.3	43.0	41.9	55.3	23.9	39.8	52.2	52.7
Transportation	37.5	23.9	...	27.9	31.3	35.6	24.4	24.0	...	15.9
Communication	49.2	37.3	33.2	54.4	53.9	77.3	13.8	57.9	37.9	84.7
Other utilities	46.9	29.6	48.1	36.9	37.6	16.0	61.2	3.4	57.9	42.7
Trade	8.5	11.7	12.2	10.9	10.5	8.8	4.6	3.3	-	6.6
Wholesale	2.0	2.1	10.0	3.9	8.4	6.5	9.2	3.6	-	14.7
Retail	9.9	13.9	12.4	12.2	10.9	9.2	3.9	3.3	-	6.1
Finance	8.9	0.4	2.1	1.8	2.1	12.8	2.8	3.5	-	4.1
Real estate operators and insurance agencies	1.6	-	25.3	0.7	1.1	4.8	-	0.2	-	4.9
Community, business and personal services	42.8	30.8	37.3	34.2	30.2	45.4	33.3	29.5	35.5	41.7
Education and related services	78.0	64.7	51.1	75.4	66.9	83.5	61.2	59.4	49.6	52.9
Health and social	61.7	47.2	58.3	46.0	37.9	63.0	46.0	35.3	59.9	63.4
Business services	1.9	0.3	2.9	2.6	1.6	3.7	3.5	5.8	-	5.4
Accommodation, food and beverage	11.6	2.1	5.6	3.4	8.1	9.2	3.6	5.0	-	16.0
Other	23.0	2.6	4.6	5.5	6.3	6.4	2.8	4.2	4.2	1.2
Government services	84.2	80.3	...	96.9	57.2	72.7	...	99.7	97.4	73.1

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 7B: Unionization rates for women by province and industry, 1994

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	32.6	24.1	33.7	32.6	25.2	35.3	26.4	28.7	32.2	40.2
Agriculture	16.2	0.2	0.3	-	0.5	2.7	-	0.9	-	3.1
Forestry	11.3	2.8	-	22.7	...	19.7	3.4	-	-	-
Fishing and trapping	18.0	-	-	-	-	4.8	...	14.4	...	-
Mines, quarries and oil wells	35.8	0.9	14.1	15.0	29.2	15.1	0.7	-	-	12.9
Metal mines	23.0	-	19.3	20.6	19.1	14.0	-	-	-	-
Mineral fuels	74.7	1.1	2.0	-	-	-	-	-	-	-
Other mines	-	0.1	32.3	-	5.7	15.7	-	-	-	-
Manufacturing	14.8	10.0	18.4	22.1	20.9	17.8	16.6	30.6	15.1	...
Food and beverage	22.4	35.9	...	32.9	27.2	30.9	18.3	41.2	23.0	...
Tobacco products	-	-	-	-	...	...	-	-	-	-
Rubber and plastic products	3.2	6.5	12.0	4.2	18.0	19.2	-	2.6	-	-
Leather	-	7.4	-	...	27.6	17.2	-	-	-	-
Textiles, knitting and clothing	23.7	16.3	1.7	32.1	29.5	17.9	0.2	25.0	-	-
Wood	12.4	3.2	...	0.2	16.0	9.3	19.5	4.2	-	-
Furniture and fixture	1.2	3.1	-	0.3	21.2	6.1	16.3	-	-	-
Paper and allied products	18.1	31.5	-	34.3	17.9	43.8	...	-	-	...
Printing and publishing	9.6	6.2	2.8	5.5	7.5	13.3	7.6	5.9	1.9	27.6
Primary metal	19.5	5.2	33.7	12.4	13.9	21.6	-	49.6	-	-
Metal fabrication	9.4	3.8	3.8	2.1	17.7	10.7	73.0	20.5	-	-
Machinery	10.6	6.2	-	8.2	22.8	10.8	-	-	-	-
Transportation equipment	51.5	9.9	-	26.6	35.7	15.2	3.7	13.8	-	-
Electrical products	11.1	-	9.4	4.1	24.4	14.1	-	...	-	-
Non-metallic mineral products	1.1	16.7	1.7	-	29.0	18.5	...	-	-	-
Refined petroleum and coal products	1.5	10.7	-	-	2.3	1.4	1.5	-	-	-
Chemical products	1.6	0.1	1.1	0.2	8.8	11.5	1.4	5.3	-	-
Miscellaneous manufacturing	3.8	2.2	-	39.3	4.3	15.7	14.1	27.8	-	-
Construction	7.7	12.4	4.0	4.3	9.7	37.5	2.2	4.0	4.7	11.8
Transportation, communication and other utilities	60.5	38.4	53.7	41.7	44.5	60.8	31.2	53.8	...	52.8
Transportation	45.0	29.5	...	28.9	58.3	46.4	25.5	41.7	...	22.1
Communication	75.8	49.2	29.6	51.2	41.6	...	28.5	70.1	39.6	79.2
Other utilities	...	21.0	73.5	41.0	32.7	11.9	...	7.8	35.0	52.4
Trade	7.8	10.3	12.8	12.8	11.3	9.2	3.6	5.5	-	7.1
Wholesale	2.5	2.6	7.2	5.2	8.8	6.8	3.6	16.1	-	10.5
Retail	9.1	11.7	13.7	14.3	11.7	9.6	3.6	4.2	-	6.8
Finance	10.8	0.4	2.0	1.9	1.8	12.3	1.6	3.1	-	5.2
Real estate operators and insurance agencies	1.8	-	16.8	0.7	0.7	5.7	-	1.5	-	3.6
Community, business and personal services	38.7	27.9	38.2	33.2	29.7	45.9	31.3	32.6	33.5	37.0
Education and related services	72.0	59.5	56.2	58.8	62.7	84.6	57.3	67.0	60.8	49.3
Health and social	51.0	42.9	58.7	45.4	38.0	65.4	41.2	39.6	57.0	55.5
Business services	5.8	0.2	3.6	5.9	2.5	2.8	4.6	6.8	-	3.8
Accommodation, food and beverage	10.6	2.6	6.3	4.2	7.6	9.3	4.0	6.3	-	10.3
Other	22.9	2.9	5.8	6.0	7.9	6.2	2.6	4.2	3.8	1.0
Government services	...	88.6	98.5	...	62.1	71.7	75.6	69.2	72.8	85.3

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 7C: Unionization rates for women by province and industry, 1995

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	34.1	24.4	37.0	34.9	26.4	34.4	28.3	27.1	28.4	40.9
Agriculture	8.8	0.4	0.1	-	0.5	3.0	-	-	-	-
Forestry	18.2	-	-	-	-	-	-	-	-	-
Fishing and trapping	-	-	-	-	-	-	-	-	-	-
Mines, quarries and oil wells	16.6	0.8	-	-	24.9	17.1	-	-	-	-
Metal mines	-	-	-	-	-	-	-	-	-	-
Mineral fuels	-	0.8	-	-	-	-	-	-	-	-
Other mines	-	-	-	-	-	-	-	-	-	-
Manufacturing	15.5	10.9	10.2	22.3	22.1	21.0	13.4	35.3	9.6	...
Food and beverage	36.3	11.7	-	21.9	21.3	34.1	14.4	56.2	-	...
Tobacco products	-	-	-	-	-	36.9	-	-	-	-
Rubber and plastic products	3.0	-	-	-	35.3	18.2	-	-	-	-
Leather	-	-	-	-	...	30.8	-	-	-	-
Textiles, knitting and clothing	25.2	18.7	-	35.0	28.8	22.1	-	-	-	-
Wood	14.1	-	-	-	21.6	18.7	-	-	-	-
Furniture and fixture	-	-	-	-	22.2	4.6	-	-	-	-
Paper and allied products	34.0	-	-	-	18.9	36.1	-	-	-	-
Printing and publishing	8.9	9.9	2.2	10.2	5.7	12.0	-	-	-	-
Primary metal	-	-	-	-	26.0	24.0	-	-	-	-
Metal fabrication	-	-	-	-	12.2	17.1	-	-	-	-
Machinery	4.8	-	-	-	16.4	8.3	-	-	-	-
Transportation equipment	-	-	-	-	34.8	18.4	-	-	-	-
Electrical products	4.8	-	-	-	31.1	30.5	-	-	-	-
Non-metallic mineral products	-	-	-	-	29.0	33.5	-	-	-	-
Refined petroleum and coal products	-	-	-	-	-	-	-	-	-	-
Chemical products	0.4	-	-	-	6.7	8.8	-	-	-	-
Miscellaneous manufacturing	0.5	3.1	-	-	15.2	22.0	-	-	-	-
Construction	5.5	18.2	2.9	3.0	9.0	27.5	2.1	-	-	-
Transportation, communication and other utilities	56.8	42.9	70.9	52.5	49.0	47.8	57.1	57.5	-	56.7
Transportation	45.5	23.9	...	40.8	48.2	30.5	...	54.9	-	-
Communication	67.7	60.5	33.8	61.7	48.4	...	48.5	64.4	-	59.7
Other utilities	58.9	43.6	41.1	-	55.2	10.3	-	-	-	-
Trade	9.6	10.9	13.0	12.1	11.4	9.1	4.0	4.3	-	5.5
Wholesale	3.3	2.7	1.5	4.6	7.5	5.9	5.4	17.7	-	-
Retail	10.7	12.4	15.0	13.8	12.3	9.7	3.7	3.1	-	5.2
Finance	8.1	0.2	2.4	1.7	1.8	12.9	2.0	3.2	-	3.9
Real estate operators and insurance agencies	1.6	-	19.1	0.8	0.9	3.1	0.1	0.8	-	-
Community, business and personal services	39.6	28.1	39.6	36.5	30.3	43.2	31.4	28.9	28.9	42.3
Education and related services	81.4	60.0	57.7	63.9	61.7	84.5	55.9	56.3	49.3	56.8
Health and social	50.7	42.9	58.3	48.8	39.4	60.4	41.0	36.2	43.4	60.5
Business services	4.9	0.2	2.4	7.0	2.5	2.8	4.6	3.8	-	2.5
Accommodation, food and beverage	11.7	2.6	6.7	4.2	7.9	8.7	4.5	5.5	-	17.5
Other	21.8	4.7	7.3	14.3	8.7	8.2	5.0	4.8	6.1	1.8
Government services	...	81.3	...	...	71.2	82.2	...	86.2	79.5	87.5

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 8A: Unionization rates for men by province and industry, 1993

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	35.8	23.0	29.3	35.0	32.7	41.5	39.6	35.3	26.6	62.4
Agriculture	7.6	0.3	1.9	-	0.5	1.6	-	...	-	1.4
Forestry	54.0	0.1	-	48.7	13.2	51.5	17.4	-	-	-
Fishing and trapping	76.0	-	-	-	5.6	51.9	...	22.2	-	-
Mines, quarries and oil wells	...	6.1	30.5	17.8	25.6	58.2	20.7	...	-	...
Metal mines	63.2	-	24.1	22.1	25.7	54.9	13.0	-	-	...
Mineral fuels	...	6.0	8.1	-	23.0	...	...	...	-	-
Other mines	...	15.9	57.0	5.7	26.1	...	20.6	...	-	...
Manufacturing	33.0	22.1	26.1	35.7	35.4	34.9	49.0	33.5	18.2	...
Food and beverage	45.8	31.4	47.9	53.4	32.8	42.0	27.4	39.4	9.5	...
Tobacco products	-	-	-	-	...	...	-	-	-	-
Rubber and plastic products	81.4	6.8	26.5	4.8	20.8	47.4	8.6	2.7	-	-
Leather	-	-	-	...	45.5	16.4	-	-	-	-
Textiles, knitting and clothing	11.7	7.2	...	25.9	42.9	21.4	0.3	29.3	-	-
Wood	24.8	13.9	42.0	2.6	28.6	22.8	36.0	1.2	-	4.1
Furniture and fixture	12.5	3.4	-	12.7	15.6	11.9	24.6	-	-	-
Paper and allied products	58.1	41.1	43.4	63.3	54.4	61.6	63.4	70.9	6.5	...
Printing and publishing	25.3	27.3	7.9	30.2	16.4	36.3	22.9	10.5	12.4	11.4
Primary metal	21.8	31.1	60.2	...	56.6	49.8	...	57.8	-	22.3
Metal fabrication	63.6	40.7	32.3	62.5	23.8	43.7	28.2	46.7	-	33.3
Machinery	61.4	8.6	6.5	22.3	34.2	32.5	-	51.6	-	-
Transportation equipment	31.8	11.3	1.5	23.9	57.8	22.5	...	69.9	...	...
Electrical products	6.4	1.0	15.2	16.4	24.7	38.3	15.6	4.6	-	-
Non-metallic mineral products	33.0	63.8	8.3	26.0	50.3	...	42.7	43.4	56.6	68.9
Refined petroleum and coal products	37.8	54.7	50.8	-	37.0	22.5	52.8	-	-	52.1
Chemical products	9.0	6.0	14.7	27.7	18.9	20.2	8.6	35.9	-	48.1
Miscellaneous manufacturing	3.2	2.5	1.2	38.7	10.6	26.3	7.0	11.7	-	3.8
Construction	49.1	32.7	52.1	27.1	68.7	...	...	62.3	...	54.2
Transportation, communication and other utilities	56.8	41.6	47.2	63.0	48.4	54.0	61.0	47.0	58.1	40.7
Transportation	55.3	38.0	57.4	56.6	46.2	50.4	78.5	59.7	77.0	31.2
Communication	69.8	53.6	41.3	77.1	52.0	66.5	38.3	38.8	52.3	52.2
Other utilities	43.9	39.7	14.8	78.8	48.7	48.0	34.7	33.3	18.7	56.3
Trade	10.1	11.9	10.2	13.0	13.5	15.3	6.6	7.4	1.0	11.1
Wholesale	9.2	8.4	5.4	12.6	14.9	11.2	10.5	7.9	3.0	18.7
Retail	10.6	14.0	13.1	13.2	12.8	17.9	4.5	7.2	0.3	8.4
Finance	10.1	1.4	0.3	2.5	1.8	6.1	0.8	1.8	-	2.4
Real estate operators and insurance agencies	1.8	-	20.6	0.8	3.8	4.2	-	0.6	-	5.6
Community, business and personal services	30.9	22.2	25.5	27.5	25.2	39.0	33.4	31.6	29.0	44.5
Education and related services	69.1	74.1	54.4	79.0	76.5	86.1	65.4	73.4	51.0	73.6
Health and social	66.1	27.6	43.4	27.3	31.8	70.0	47.6	29.4	90.6	49.2
Business services	4.2	1.2	3.5	16.7	4.7	10.5	10.4	3.1	-	11.2
Accommodation, food and beverage	11.5	2.8	5.8	2.5	7.1	12.3	3.3	12.3	-	16.1
Other	21.7	8.6	9.0	8.0	14.4	12.1	15.9	18.6	15.8	11.4
Government services	86.3	60.9	78.7	93.0	70.4	75.1	67.4	64.5	79.2	90.8

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 8B: Unionization rates for men by province and industry, 1994

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	37.8	22.2	27.8	35.6	32.5	39.3	40.8	33.9	34.6	65.6
Agriculture	8.6	0.3	2.3	1.1	0.3	4.2	-	11.2	-	1.6
Forestry	54.5	0.1	-	...	30.5	43.1	29.6	-	-	-
Fishing and trapping	75.0	-	-	-	0.7	11.3	...	18.5	37.8	-
Mines, quarries and oil wells	...	6.2	29.4	24.9	22.9	45.4	23.1	44.3	-	58.1
Metal mines	...	-	24.2	26.6	24.0	47.6	6.1	-	-	91.9
Mineral fuels	48.5	10.2	10.5	-	59.7	-	61.2	52.5	-	-
Other mines	...	0.4	40.0	23.0	16.8	39.7	32.3	41.8	-	12.2
Manufacturing	35.5	19.0	27.1	34.0	33.1	31.1	47.8	32.5	14.1	...
Food and beverage	36.6	35.4	45.9	45.8	30.9	35.3	29.5	34.5	7.2	...
Tobacco products	-	-	-	-	...	...	-	-	-	-
Rubber and plastic products	49.1	7.8	-	14.3	21.0	23.0	7.5	2.2	-	-
Leather	1.5	-	-	...	43.5	18.5	-	-	-	-
Textiles, knitting and clothing	22.5	4.8	19.6	33.3	42.3	23.3	0.7	17.1	-	-
Wood	34.0	11.8	78.1	1.0	27.2	23.8	35.2	1.6	-	20.3
Furniture and fixture	9.7	2.2	-	3.7	23.2	12.1	14.2	-	-	-
Paper and allied products	51.1	23.0	83.5	...	47.1	65.1	64.3	59.5	-	...
Printing and publishing	51.6	14.9	8.4	11.9	13.9	25.6	21.9	7.5	6.2	10.8
Primary metal	33.5	29.1	54.1	88.9	52.3	46.0	...	52.4	-	58.4
Metal fabrication	43.5	27.4	16.5	73.4	25.7	42.5	17.7	48.9	-	...
Machinery	44.2	9.9	6.1	34.7	30.3	19.4	-	46.6	-	-
Transportation equipment	45.3	8.7	0.6	27.0	48.8	23.1	...	70.4	...	25.0
Electrical products	4.1	0.5	13.0	24.0	21.5	21.8	6.5	17.4	-	-
Non-metallic mineral products	38.7	65.9	9.1	24.0	47.6	43.1	56.1	...	57.7	...
Refined petroleum and coal products	...	15.6	32.8	11.3	45.9	...	...	-	-	...
Chemical products	8.3	10.4	21.4	10.6	16.1	13.8	...	...	-	...
Miscellaneous manufacturing	1.9	2.2	3.7	36.6	9.2	39.4	29.0	21.7	-	-
Construction	52.7	33.6	39.8	34.8	59.0	...	64.9	57.8	45.2	62.3
Transportation, communication and other utilities	61.7	34.8	40.6	55.4	52.6	50.6	66.0	56.8	81.1	52.5
Transportation	59.4	32.1	54.9	53.3	56.5	46.0	85.9	56.2	88.9	39.1
Communication	74.2	37.0	24.4	74.0	46.1	56.4	22.4	56.3	61.3	...
Other utilities	46.1	44.3	13.3	45.4	54.2	56.5	57.0	61.4	56.9	64.8
Trade	11.2	12.1	8.3	13.0	14.1	14.9	8.2	11.5	1.0	13.4
Wholesale	11.7	9.7	3.8	13.5	15.8	12.2	12.6	18.6	0.6	26.9
Retail	11.0	13.4	11.3	12.7	13.3	16.3	5.8	8.4	1.1	8.1
Finance	9.0	1.0	0.7	1.9	1.5	7.5	1.4	1.0	-	3.0
Real estate operators and insurance agencies	1.5	-	24.4	1.1	4.6	6.3	-	0.3	-	2.8
Community, business and personal services	30.0	21.3	28.2	30.0	25.9	38.1	29.0	35.2	35.3	41.8
Education and related services	60.1	81.0	66.2	86.3	73.7	83.9	55.2	70.7	67.8	75.4
Health and social	54.0	24.4	40.7	29.6	36.1	76.0	39.5	72.3	49.5	59.0
Business services	10.7	0.6	1.5	14.7	6.2	9.8	10.6	3.8	-	7.1
Accommodation, food and beverage	10.4	3.9	6.7	3.9	8.1	10.3	4.7	15.8	-	9.7
Other	24.2	6.1	12.2	9.1	16.4	13.2	15.0	13.6	...	13.0
Government services	88.1	66.1	71.1	...	73.1	77.4	80.2	56.8	90.4	83.1

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 8C: Unionization rates for men by province and industry, 1995

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
	%									
All industries	38.5	21.7	29.2	35.2	32.3	39.6	41.0	31.0	31.0	62.7
Agriculture	4.4	0.2	1.2	1.2	0.2	3.6	-	9.7	-	-
Forestry	73.3	0.2	-	-	14.5	37.6	24.2	-	-	-
Fishing and trapping	...	-	-	-	0.4	-	...	19.5	-	-
Mines, quarries and oil wells	...	7.4	22.7	19.2	20.3	45.2	24.1	53.0	-	38.8
Metal mines	...	-	13.8	19.3	20.7	51.3	-	-	-	...
Mineral fuels	53.9	7.3	5.8	-	-	-	-	68.9	-	-
Other mines	-	-	57.1	-	14.1	42.3	27.4	-	-	-
Manufacturing	33.2	19.6	21.5	32.2	33.6	33.1	44.9	36.7	11.2	...
Food and beverage	60.1	34.2	25.2	36.2	29.5	40.5	29.9	34.8	5.3	...
Tobacco products	-	-	-	-	-	-	-	-	-	-
Rubber and plastic products	33.9	13.3	-	3.0	30.7	23.3	-	2.4	-	-
Leather	-	-	-	-	-	36.2	-	-	-	-
Textiles, knitting and clothing	4.5	-	-	-	40.7	27.7	-	-	-	-
Wood	31.4	7.5	26.1	0.5	23.1	26.7	36.7	1.9	-	-
Furniture and fixture	8.5	1.9	-	5.2	31.4	13.8	-	-	-	-
Paper and allied products	59.5	39.4	-	-	50.6	58.8	65.3	72.8	-	...
Printing and publishing	22.5	16.2	8.0	11.5	14.3	22.7	-	10.7	-	-
Primary metal	20.7	30.2	52.1	...	52.2	50.1	82.4	-	-	-
Metal fabrication	45.1	26.2	-	62.3	26.7	27.4	16.4	-	-	-
Machinery	30.3	14.9	6.8	38.2	29.1	21.4	-	-	-	-
Transportation equipment	42.9	13.9	0.6	33.9	44.5	34.6	...	44.1	-	-
Electrical products	4.7	0.5	-	-	22.5	22.1	-	-	-	-
Non-metallic mineral products	23.2	62.5	-	20.1	49.9	44.7	-	-	-	-
Refined petroleum and coal products	-	25.5	-	-	26.5	-	-	-	-	-
Chemical products	10.8	14.7	-	1.3	18.0	19.0	-	-	-	-
Miscellaneous manufacturing	1.6	2.0	-	41.2	15.9	37.3	-	-	-	-
Construction	55.1	41.1	34.3	30.2	59.4	...	55.1	59.3	22.6	52.8
Transportation, communication and other utilities	66.0	34.9	54.9	66.1	49.2	57.1	72.0	38.4	74.1	42.5
Transportation	63.0	32.3	73.9	71.5	48.4	47.2	83.1	40.2	-	35.7
Communication	79.2	39.4	36.7	56.5	50.8	80.4	43.6	46.3	-	60.1
Other utilities	51.1	38.7	14.5	57.6	48.5	60.6	71.0	...	-	40.7
Trade	12.0	11.5	8.9	12.2	13.5	14.7	9.9	9.1	0.8	18.8
Wholesale	11.4	7.6	2.6	11.0	13.5	11.4	22.5	16.3	-	47.1
Retail	12.3	14.5	13.0	12.8	13.4	16.5	5.3	6.6	0.9	8.0
Finance	10.8	1.2	0.5	2.2	2.6	7.1	1.1	1.2	-	-
Real estate operators and insurance agencies	2.2	-	15.7	0.7	4.5	5.0	0.4	-	-	-
Community, business and personal services	29.6	18.1	31.2	30.0	25.8	38.1	30.5	29.2	44.1	50.4
Education and related services	71.1	72.5	64.7	83.9	68.1	77.7	60.7	72.4	59.6	82.7
Health and social	53.3	24.2	46.6	30.2	34.7	63.5	36.8	41.3	-	63.1
Business services	8.0	0.5	3.2	15.4	7.1	9.2	10.8	4.1	-	9.8
Accommodation, food and beverage	12.0	3.2	7.4	4.1	8.4	11.5	5.0	11.5	-	18.6
Other	20.3	5.9	16.7	9.0	17.5	21.8	19.7	14.5	-	13.8
Government services	91.9	64.0	84.2	93.8	81.4	79.1	...	59.4	86.1	76.0

Source: CALURA

Note: Under CALURA, union membership is measured as at December 31 each year. Included as union members, therefore, are many workers who, as a result of their seasonal employment, are not working on December 31. Thus, although they retain their union membership status, they are not counted as "paid workers." In these cases the provincial unionization rates for some industries are displayed with the following symbol, "...".

Table 9: Labour unions having 50,000 or more members in Canada

	1993				1994				1995			
	Both sexes	Men	Women	Locals	Both sexes	Men	Women	Locals	Both sexes	Men	Women	Locals
	'000		No.		'000		No.		'000		No.	
Total	1,958	1,126	832	7,105	1,951	1,092	859	7,413	2,154	1,217	936	7,980
International unions *	669	472	198	1,189	623	425	198	1,012	682	472	209	1,109
Food and commercial workers	174	94	80	115	181	95	86	117	181	94	87	111
Steelworkers	155	126	29	647	159	129	30	605	176	141	35	650
Teamsters (AFL-CIO)	87	75	12	38	84	72	12	34	88	75	12	34
Service employees	85	24	61	22	85	24	61	22	85	24	61	22
IBEW (AFL-CIO/CFL)	65	58	7	117	63	56	7	117	51	45	6	60
Machinists	54	47	7	134	...	...	...	...	51	45	7	116
Carpenters (AFL-CIO)	50	49	1	116	52	50	1	117	50	49	1	116
National unions	1,016	526	490	4,141	1,056	539	517	4,648	1,140	577	563	4,889
CUPE (CLC)	411	184	228	2,345	458	194	264	2,680	471	199	272	2,726
CAW (CLC)	180	144	35	163	219	171	48	337	224	171	52	344
Communication, energy and paperworkers (CLC)	131	108	22	624	134	111	23	686	161	123	38	810
Social affairs (CNTU)	102	33	69	653	103	33	70	663	93	30	63	663
School boards teachers federations	90	30	61	53	91	30	62	53	88	28	60	53
Nurses Association of Ontario (Ind.)	51	-	51	232	51	-	51	229	52	-	52	225
Ontario Secondary School Teachers Federation	50	26	24	71	...	...	...	...	51	25	25	68
Government unions	273	129	144	1,775	271	127	144	1,753	332	168	164	1,982
Public Service Alliance (CLC) **	141	74	67	1,216	135	71	64	1,200	127	67	61	1,204
Ontario Public Service Employees (CLC)	82	35	47	454	83	34	48	459	84	34	49	469
British Columbia government employees unions	50	20	30	105	53	21	32	94	55	22	34	94
Canadian Union of Postal Workers	...	...	...	...	...	...	...	...	66	46	20	215

Source: CALURA

* International unions not identified as independent (Ind.) or AFL-CIO/CFL are affiliated with the AFL-CIO/CLC.

** Total membership of the Public Service Alliance of Canada components.

IBEW International Brotherhood of Electrical Workers

CUPE Canadian Union of Public Employees

CAW National Automobile, Aerospace, Transportation and General Workers Union of Canada (CAW-CANADA)

Table 10A: Statement of income and expenditures, by type of union, 1993

	All unions	International unions	National unions	Government unions
\$'000				
Income				
Dues	948,012	114,963	596,453	236,596
Interest and dividends	64,892	15,797	39,979	9,116
Other	59,184	12,442	44,102	2,640
Income - Total	1,072,088	143,202	680,534	248,352
Expenditures				
Salaries	383,420	48,555	242,187	92,678
Strike benefits	34,743	8,529	19,835	6,379
Pension costs	69,438	22,412	43,074	3,952
Affiliation fees	39,825	6,973	23,726	9,126
Conventions	32,089	3,579	16,750	11,760
Organizing	17,808	7,708	5,057	5,043
Professional fees	49,277	6,232	27,869	15,176
Publishing	13,264	4,643	7,365	1,256
Depreciation	10,666	1,821	7,009	1,836
Office	202,123	23,548	128,837	49,738
Other	178,896	25,444	113,041	40,411
Expenditures - Total	1,031,549	159,444	634,750	237,355
Surplus (deficiency) before extraordinary items	40,539	(16,242)	45,784	10,997
Extraordinary items	(3,454)	(2,559)	260	(1,155)
Surplus (deficiency) for the year	37,085	(18,801)	46,044	9,842
Distribution of surplus by fund				
General and other funds	19,340	(21,592)	35,091	5,841
Strike	17,745	2,791	10,953	4,001
Total	37,085	(18,801)	46,044	9,842

Source: CALURA

Table 10B: Statement of income and expenditures, by type of union, 1994

	All unions	International unions	National unions	Government unions
	\$'000			
Income				
Dues	955,762	121,286	598,658	235,818
Interest and dividends	64,137	14,587	41,147	8,403
Other	81,615	11,853	67,138	2,624
Income - Total	1,101,514	147,726	706,943	246,845
Expenditures				
Salaries	366,329	52,793	233,133	80,403
Strike benefits	38,843	10,852	25,776	2,215
Pension costs	66,651	20,273	42,142	4,236
Affiliation fees	45,301	7,760	27,717	9,824
Conventions	36,939	3,976	23,595	9,368
Organizing	13,824	7,208	3,848	2,768
Professional fees	54,769	7,640	30,773	16,356
Publishing	14,842	4,543	8,424	1,875
Depreciation	13,712	1,899	9,486	2,327
Office	226,239	26,687	137,227	62,325
Other	192,503	25,974	123,530	42,999
Expenditures - Total	1,069,952	169,605	665,651	234,696
Surplus (deficiency) before extraordinary items	31,562	(21,879)	41,292	12,149
Extraordinary items	477	(2,091)	340	2,228
Surplus (deficiency) for the year	32,039	(23,970)	41,632	14,377
Distribution of surplus by fund				
General and other funds	16,397	(23,843)	32,032	8,208
Strike	15,642	(127)	9,600	6,169
Total	32,039	(23,970)	41,632	14,377

Source: CALURA

Table 10C: Statement of income and expenditures, by type of union, 1995

	All unions	International unions	National unions	Government unions
\$'000				
Income				
Dues	978,147	125,245	615,455	237,447
Interest and dividends	69,457	15,284	41,537	12,636
Other	97,770	17,725	74,375	5,670
Income - Total	1,145,374	158,254	731,367	255,753
Expenditures				
Salaries	370,795	50,229	239,602	80,964
Strike benefits	31,509	8,843	21,709	957
Pension costs	76,997	26,157	46,163	4,677
Affiliation fees	47,294	7,734	29,843	9,717
Conventions	33,316	4,043	19,101	10,172
Organizing	18,300	7,797	7,667	2,836
Professional fees	57,962	8,147	31,357	18,458
Publishing	16,352	4,459	9,595	2,298
Depreciation	14,291	2,415	9,522	2,354
Office	237,796	27,323	140,078	70,395
Other	198,094	31,081	127,456	39,557
Expenditures - Total	1,102,706	178,228	682,093	242,385
Surplus (deficiency) before extraordinary items	42,668	(19,974)	49,274	13,368
Extraordinary items	(6,899)	761	3,318	(10,978)
Surplus (deficiency) for the year	35,769	(19,213)	52,592	2,390
Distribution of surplus by fund				
General and other funds	31,420	(23,079)	49,073	5,426
Strike	4,349	3,866	3,519	(3,036)
Total	35,769	(19,213)	52,592	2,390

Source: CALURA

Table 11A: Canadian operations of international unions, 1993

	Total Canadian operations of international unions	Direct	Indirect (reported)	Indirect (estimated)
		\$'000		
Income				
Dues	114,963	114,963	-	-
Interest and dividends	15,797	12,501	2,248	1,048
Other	12,442	7,872	1,042	3,528
Income - Total	143,202	135,336	3,290	4,576
Expenditures				
Salaries	48,555	31,874	9,461	7,220
Strike benefits	8,529	8,529	-	-
Pension costs	22,412	8,673	5,240	8,499
Affiliation fees	6,973	5,443	1,252	278
Conventions	3,579	1,271	1,790	518
Organizing	7,708	5,180	1,418	1,110
Professional fees	6,232	3,064	2,041	1,127
Publishing	4,643	2,372	1,583	688
Depreciation	1,821	509	796	516
Office	23,548	15,361	6,162	2,025
Other	25,444	15,010	6,300	4,134
Expenditures - Total	159,444	97,286	36,043	26,115
Surplus (deficiency) before extraordinary items	(16,242)	38,050	(32,753)	(21,539)
Extraordinary items	(2,559)	(3,500)	(88)	1,029
Surplus (deficiency) for the year	(18,801)	34,550	(32,841)	(20,510)

Source: CALURA

Table 11B: Canadian operations of international unions, 1994

	Total Canadian operations of international unions	Direct	Indirect (reported)	Indirect (estimated)
		\$'000		
Income				
Dues	121,286	121,286	-	-
Interest and dividends	14,587	10,969	1,447	2,171
Other	11,853	6,701	1,948	3,204
Income - Total	147,726	138,956	3,395	5,375
Expenditures				
Salaries	52,793	34,441	9,269	9,083
Strike benefits	10,852	10,852	-	-
Pension costs	20,273	6,218	5,874	8,181
Affiliation fees	7,760	5,891	1,299	570
Conventions	3,976	2,897	1,079	-
Organizing	7,208	4,605	1,305	1,298
Professional fees	7,640	4,310	2,395	935
Publishing	4,543	2,242	1,775	526
Depreciation	1,899	475	805	619
Office	26,687	16,645	6,696	3,346
Other	25,974	18,437	6,301	1,236
Expenditures - Total	169,605	107,013	36,798	25,794
Surplus (deficiency) before extraordinary items	(21,879)	31,943	(33,403)	(20,419)
Extraordinary items	(2,091)	(1,016)	(241)	(834)
Surplus (deficiency) for the year	(23,970)	30,927	(33,644)	(21,253)

Source: CALURA

Table 11C: Canadian operations of international unions, 1995

	Total Canadian operations of international unions	Direct	Indirect (reported)	Indirect (estimated)
			\$'000	
Income				
Dues	125,245	125,245	-	-
Interest and dividends	15,284	10,420	1,680	3,184
Other	17,725	9,821	1,330	6,574
Income - Total	158,254	145,486	3,010	9,758
Expenditures				
Salaries	50,229	33,641	9,105	7,483
Strike benefits	8,843	8,843	-	-
Pension costs	26,157	6,866	10,511	8,780
Affiliation fees	7,734	6,000	1,081	653
Conventions	4,043	1,461	1,383	1,199
Organizing	7,797	6,428	726	643
Professional fees	8,147	4,286	2,447	1,414
Publishing	4,459	2,265	1,717	477
Depreciation	2,415	972	867	576
Office	27,323	15,831	6,377	5,115
Other	31,081	18,965	6,902	5,214
Expenditures - Total	178,228	105,558	41,116	31,554
Surplus (deficiency) before extraordinary items	(19,974)	39,928	(38,106)	(21,796)
Extraordinary items	761	(311)	373	699
Surplus (deficiency) for the year	(19,213)	39,617	(37,733)	(21,097)

Source: CALURA

Table 12A: Balance sheet of all labour unions, 1993

	All unions	International unions	National unions	Government unions
	\$'000			
Assets				
Cash				
Canadian currency	134,832	28,939	77,128	28,765
Other currencies	133,354	132,178	1,176	-
Accounts receivable and accrued income	206,285	103,309	78,623	24,353
Prepaid expenses and supplies inventory	65,412	56,729	6,944	1,739
Loans and advances				
Locals and affiliates	62,229	48,334	3,726	10,169
Other	9,539	3,346	5,272	921
Investments in Canada				
Government of Canada	103,731	63,818	37,607	2,306
Canadian provinces and municipalities	34,698	11,712	14,353	8,633
Term deposits	302,900	8,904	234,045	59,951
Mortgages	24,746	14,858	9,399	489
Corporations bonds and debentures	106,823	5,538	98,316	2,969
Corporation shares	16,158	2,446	13,465	247
Other	155,574	59,006	66,582	29,986
Foreign investments				
Term deposits	126,220	124,027	2,193	-
Mortgages	131,151	131,151	-	-
Corporations bonds and debentures	352,352	352,352	-	-
Corporation shares	210,107	210,107	-	-
Other	2,109,451	2,094,257	12,171	3,023
Land, buildings and equipment (net of accumulated depreciation)	505,444	299,112	162,434	43,898
Other assets	35,600	34,423	1,032	145
Total assets	4,826,606	3,784,546	824,466	217,594
Liabilities				
Accounts payable and accrued liabilities	209,570	112,990	65,668	30,912
Loans payable				
Locals and affiliates	8,879	6,270	2,562	47
Other	68,986	54,079	11,478	3,429
Provision for future liabilities	296,039	195,038	84,186	16,815
Mortgages and other debt	32,651	6,445	16,526	9,680
Other liabilities	121,506	105,714	13,709	2,083
Total liabilities	737,631	480,536	194,129	62,966
Fund reserves				
Appropriated	2,435,194	1,920,570	444,535	70,089
Strike and defence	1,653,781	1,383,440	185,802	84,539
Total fund balances	4,088,975	3,304,010	630,337	154,628
Total liabilities and fund balances	4,826,606	3,784,546	824,466	217,594

Source: CALURA

Table 12B: Balance sheet of all labour unions, 1994

	All unions	International unions	National unions	Government unions
	\$'000			
Assets				
Cash				
Canadian currency	174,733	25,121	123,941	25,671
Other currencies	155,312	153,893	1,419	-
Accounts receivable and accrued income	203,857	104,010	73,956	25,891
Prepaid expenses and supplies inventory	66,158	57,160	7,301	1,697
Loans and advances				
Locals and affiliates	69,256	50,259	8,477	10,520
Other	23,393	18,417	4,289	687
Investments in Canada				
Government of Canada	118,576	63,529	44,042	11,005
Canadian provinces and municipalities	59,648	14,191	28,519	16,938
Term deposits	343,927	6,932	286,897	50,098
Mortgages	29,809	14,317	13,710	1,782
Corporations bonds and debentures	78,343	21,787	48,633	7,923
Corporation shares	23,535	8,159	15,129	247
Other	116,719	55,243	30,422	31,054
Foreign investments				
Term deposits	149,763	149,763	-	-
Mortgages	130,017	130,017	-	-
Corporations bonds and debentures	328,885	328,885	-	-
Corporation shares	251,235	251,001	234	-
Other	2,046,950	2,043,715	212	3,023
Land, buildings and equipment (net of accumulated depreciation)	514,562	296,800	172,313	45,449
Other assets	47,899	37,561	9,864	474
Total assets	4,932,577	3,830,760	869,358	232,459
Liabilities				
Accounts payable and accrued liabilities	251,879	146,534	74,404	30,941
Loans payable				
Locals and affiliates	15,913	6,508	8,860	545
Other	83,844	73,704	7,917	2,223
Provision for future liabilities	336,095	218,748	95,574	21,773
Mortgages and other debt	37,203	4,932	24,321	7,950
Other liabilities	201,576	189,806	8,519	3,251
Total liabilities	926,510	640,232	219,595	66,683
Fund reserves				
Appropriated	2,418,998	1,854,449	490,985	73,564
Strike and defence	1,587,069	1,336,079	158,778	92,212
Total fund balances	4,006,067	3,190,528	649,763	165,776
Total liabilities and fund balances	4,932,577	3,830,760	869,358	232,459

Source: CALURA

Table 12C: Balance sheet of all labour unions, 1995

	All unions	International unions	National unions	Government unions
	\$'000			
Assets				
Cash				
Canadian currency	185,306	43,311	111,445	30,550
Other currencies	183,436	182,884	415	137
Accounts receivable and accrued income	215,935	107,083	85,886	22,966
Prepaid expenses and supplies inventory	78,580	66,546	7,864	4,170
Loans and advances				
Locals and affiliates	69,449	43,580	13,195	12,674
Other	15,395	11,067	3,998	330
Investments in Canada				
Government of Canada	109,975	61,387	39,035	9,553
Canadian provinces and municipalities	61,634	13,495	25,520	22,619
Term deposits	395,994	17,110	320,851	58,033
Mortgages	44,796	21,087	19,444	4,265
Corporations bonds and debentures	103,201	55,152	43,120	4,929
Corporation shares	59,335	43,133	15,956	246
Other	128,187	52,685	39,762	35,740
Foreign investments				
Term deposits	108,472	108,472	-	-
Mortgages	123,579	123,579	-	-
Corporations bonds and debentures	369,528	369,338	190	-
Corporation shares	246,842	246,305	537	-
Other	1,962,124	1,961,985	139	-
Land, buildings and equipment (net of accumulated depreciation)	569,025	357,956	176,242	34,827
Other assets	130,707	96,042	34,505	160
Total assets	5,161,500	3,982,197	938,104	241,199
Liabilities				
Accounts payable and accrued liabilities	259,182	149,516	75,879	33,787
Loans payable				
Locals and affiliates	18,540	8,930	9,558	52
Other	70,765	54,873	14,323	1,569
Provision for future liabilities	447,449	304,914	118,841	23,694
Mortgages and other debt	37,640	10,216	17,570	9,854
Other liabilities	230,363	217,195	8,461	4,707
Total liabilities	1,063,939	745,644	244,632	73,663
Fund reserves				
Appropriated	2,654,731	2,043,276	536,049	75,406
Strike and defence	1,442,830	1,193,276	157,424	92,130
Total fund balances	4,097,561	3,236,552	693,473	167,536
Total liabilities and fund balances	5,161,500	3,982,196	938,105	241,199

Source: CALURA

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